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ABSTRACT

This report is one of a series of disciplinary planning studies carried out by the Advisory Committee on Academic Planning of the Council of Ontario Universities. The emphasis of the report is on forward planning, and it is hoped that it will help ensure the more ordered growth and development of graduate studies in Ontario's universities. This report deals with all aspects of economics. Recommendations suggest: (1) the universities' plan for M.A. enrollment be accepted; (2) the provincial plan for general doctoral work in economics recognize the programs at McMaster, Queen's, Toronto, and Western, and the plans of these universities be accepted; (3) if there are signs of extraordinary growth in Ph. D. enrollments of high quality in the province beyond current numbers, a fifth general Ph. D. program should be considered; (4) universities wishing to introduce small, limited-enrollment, specialized Ph. D. programs and able to obtain a favorable appraisal should be free to introduce such programs and this action would be consistent with the provincial plan; (5) the universities consider reviewing and tightening up their M.A. programs by placing more emphasis on theory and quantitative methods, streamlining and consolidating optional courses, and considering the place of a master's thesis. Sixteen additional recommendations and the reports of the Council of Ontario Universities and of the Advisory Committee on Academic Planning are included. (Author/MJM)

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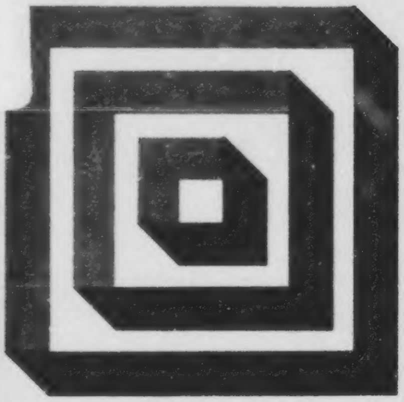

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Council of Ontario Universities
Conseil des Universités de l'Ontario

PERSPECTIVES AND PLANS FOR GRADUATE STUDIES

3. ECONOMICS 1973*

Advisory Committee on Academic Planning
Ontario Council on Graduate Studies

74-3

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* The status of this report is given in Item 2 of the statement of principles, on page 1.

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FOREWORD

The Advisory Committee on Academic Planning (ACAP), as presently constituted, was established by the Ontario Council on Graduate Studies at the request of the Council of Ontario Universities in January, 1971. The Advisory Committee's terms of reference were directed broadly toward the effective planning and rationalization of long-term graduate development in Ontario's universities both at the level of individual disciplines and at a more general level. The Advisory Committee's activities are based on the premise that graduate work is the one area of university activity in which specialization among universities, cooperative arrangements and comprehensive planning are most necessary.

In March, 1971, concern over the rising costs for support of graduate work prompted the Ontario government to institute a general embargo on funding for any new graduate programme, that is, one which had no students enrolled on May 1, 1971. This embargo was subsequently modified to include only those disciplines in which over-expansion was felt to be potentially most serious. ACAP was to begin immediately planning studies in those disciplines which remained embargoed.

The disciplinary planning process begins with the formation of a discipline group composed of one representative from each university with an interest in graduate work in the planning area. The discipline group assists in defining the precise academic boundaries of each study, scrutinizes the data collection forms, prepares a list of potential consultants, maintains contact with the consultants during the study, and prepares a commentary on the consultants' report.

The final decision on consultants for the planning study is made by ACAP. The consultants are requested to make recommendations on programmes to be offered in Ontario, desirable and/or likely enrolments, the division of responsibility for programmes among universities, and the desirable extent of collaboration with related disciplines.

While the consultants' report is the single largest element in the final report on the planning study, ACAP considers the statement of each university's forward plans to be most significant. These forward plans are usually outlined prior to the planning study, and are used as a basis for comments from the universities concerned on the consultants' report.

On receipt of the consultants' report, and comments on it from the discipline group and the universities, ACAP begins work on its own recommendations for submission directly to the Council of Ontario Universities. COU considers the input from all sources, and prepares the position of the Ontario university community.

The following report is one of a series of disciplinary planning studies carried out by the Advisory Committee on Academic Planning and to be published by the Council of Ontario Universities. The emphasis of the report is on forward planning, and it is hoped that the implementation of COU's recommendations will help to ensure the more ordered growth and development of graduate studies in Ontario's universities.

* * * * *

Council of Ontario Universities
Conseil des Universités de l'Ontario

Report and Recommendations concerning Graduate Studies in Economics

On the instruction of the Council of Ontario Universities, the Advisory Committee on Academic Planning has conducted a planning assessment for economics. The resultant report from ACAP is attached, together with the consultants' report, the comments by the discipline group, and the comments of the individual universities. The procedures followed and the planning techniques used are described in the ACAP report and are not repeated here. It is important for the reader to read the attachments in order to understand the recommendations in this Report from COU.

The Council received the ACAP report and supporting documentation on June 1, 1973. The content of the documents was debated on July 19, 1973 and on September 7, 1973. As a result of these discussions this Report and Recommendations was prepared and approved by the Council on October 16, 1973. The Report is addressed to the Committee on University Affairs and the universities of Ontario.

The following principles have been adopted and will apply to this and all other COU Reports arising out of assessments.

1. Discipline assessments by ACAP should form the basis for planning by the universities of their development of graduate studies, particularly PhD programmes. On the basis of these assessments, COU should make its own recommendations on currently embargoed programmes. Each university must retain the freedom and responsibility to plan and implement its own academic development. However, the universities in embarking on a cooperative planning process have signalled their intentions of cooperating with the COU recommendations.

2. Universities generally plan their emphases in graduate study on the bases of related departments, not of single departments. Initially the sequential nature of the discipline planning assessments makes this difficult. However, by the summer of 1974 there will have been assessments of most of the social sciences, all of the physical sciences, engineering doctoral work, and a number of professional areas. On the information and recommendations then available, each university should be able to make decisions concerning its support of graduate programmes in these areas. Amendments to university responses to the individual discipline planning assessments may then be made in the wider context of a group of related disciplines and amendments to COU's original Reports on an individual discipline may be required.

3. The first concern in planning is to review the quality of graduate opportunities and of students in Ontario universities and to make judgements about how to proceed or not proceed based on quality considerations. The procedures have made use of highly qualified independent consultants who have no direct interest in the universities in Ontario. Accordingly, COU feels bound to accept their judgements about quality where they are stated clearly unless unconvinced that their conclusions about quality are consistent with their evidence. COU's recommendations in the case of programmes which are of unsatisfactory or questionable quality will call for discontinuation or the carrying out of an appraisal, if the continuation of the programme is not crucial to the province's offerings. In some cases, however, there may be a particular need for the programme and the appropriate recommendation will be to strengthen it, with an appraisal following that action. It is also possible that if there were found to be too large a number of broadly-based programmes there could be a recommendation to discontinue the weakest; in this case, an appraisal for a more limited programme might be relevant.

4. A second consideration is the scope of opportunities for graduate work in the discipline. Do the Ontario programmes together offer a satisfactory coverage of the main divisions of the discipline?

5. Numbers of students to be planned for will depend on the likely number of applicants of high quality and in some cases may relate to an estimate of society's needs. Such estimates may be reasonably reliable in some cases and not in others. If the plans of the universities appear to be consistent with the likely number of well-qualified applicants and there is either no satisfactory basis for estimating needs or there is no inconsistency between a reasonable estimate of need and the universities' plans, then COU will take note of the facts without making recommendations on the subject of numbers.

   If the numbers being planned for by the universities are grossly out of line with the anticipated total of well-qualified students, or a reliable estimate of needs, COU will make appropriate corrective recommendations. Depending on the circumstances, these may call for a change in the total numbers to be planned for and indications of which institutions should increase, decrease, or discontinue. The recommendations in serious cases may need to specify departmental figures for each university for a time. If the numbers being planned for are insufficient, the recommendations may call for expansion, or new programmes, and may have implications for both operating and capital costs.

   Unless there are exceptional circumstances, the recommendations concerning enrolment will not call for a university to refuse admission to any well-qualified student who wishes to work in a field in which that university offers a programme and in which it has the capacity to accommodate the student.

6. The quality of graduate programmes is partly dependent on size, and for each programme, depending on how it is designed and its scope, there is a minimum size of enrolment below which quality may suffer. That number cannot be expressed for the discipline as a whole but only for individual programmes depending on their purpose, their resources and their design.

7. Universities will be expected to notify COU if they intend to depart from the COU Report in any way which they believe might have a significant bearing on the provincial plans.

8. Appraisals arising as the result of assessments are to be based on the standards but not necessarily the scope of the acceptable programmes in the province.

General observations concerning economics

1. The quality of doctoral work in some universities has achieved international distinction. All universities offering doctoral work are adequate in quality in some fields.
2. Four universities are well qualified to offer general doctoral work in economics. A fifth is qualified in the field of Canadian economic policy.
3. Limited opportunities exist for economical collaboration between universities in offering graduate work in economics, notably in Ottawa (Carleton University and the University of Ottawa) and the Toronto-Niagara region.
4. The range of graduate programmes in economics embraces all the major divisions of economics, and work of good quality and, in some specialities, exceptional quality exists in each of them. There is an overall need for more emphasis on theory and quantitative methods.
5. Careful and qualified estimates of manpower demand and supply for economists suggest that there is unlikely to be an excess supply of MAs in the next few years. The supply of PhDs will remain substantially below the likely demand if the provincial plans are limited to meeting the demand for doctoral study to students of high quality.
6. The universities collectively have been planning for more doctoral students than are justified on the basis of the likely number of applicants of high quality.
7. There is no need for additional general PhD programmes in Ontario at the present time.
8. The four best existing general PhD programmes in economics could accommodate all the well-qualified applicants likely to be available in the near future, but it is consistent with reasonable provincial objectives to have in addition small, limited-enrolment specialized PhD programmes.

Recommendations

It is recommended that:

1. The universities' plans for MA enrolment be accepted.
2. The provincial plan for general doctoral work in economics recognize the programmes at McMaster, Queen's, Toronto and Western, and that the plans of these universities be accepted.
3. If there are signs of extraordinary growth in PhD enrolments of high quality in the province beyond current numbers, COU should give consideration to the desirability of beginning a fifth general PhD programme.

4. Universities wishing to introduce small, limited-enrolment, specialized PhD programmes and able to obtain a favourable appraisal should be free to introduce such programmes and this action would be consistent with the provincial plan.

5. The universities consider reviewing and tightening up their masters, programmes by placing more emphasis on theory and quantitative methods, streamlining and consolidating optional courses, and considering the place of an MA thesis.

6. The universities consider reviewing and tightening up their doctoral programmes by placing more emphasis on theory and quantitative methods, streamlining and consolidating optional courses and substituting formal instructional courses for reading courses and seminars.

7. The universities actively explore the possibilities of collaboration and sharing of facilities.

8. In view of the great difficulties in mounting part-time doctoral programmes, the universities and the Appraisals Committee scrutinize with great care any proposal for such a programme.

9. There should be experimentation with applied and interdisciplinary graduate programmes as long as the core of the discipline (economic theory and quantitative methods) is well covered.

10. Carleton University continue to offer its PhD programme but restrict enrolments to the field of Canadian economic policy. Carleton has requested an appraisal of this programme. Carleton should proceed with its plan for an increase in the enrolment in its master's programme up to 1976-77.

11. The University of Guelph proceed with its plan for a modest increase in the enrolment in its master's programme up to 1976-77.

12. The master's programme in economics at Lakehead University be appraised. It is further recommended that Lakehead discontinue enrolment of new students to begin their studies after the end of the Fall term of 1974, if favourable appraisal has not been obtained by that time, and that if the appraisal is favourable, Lakehead University anticipate a roughly constant enrolment. If the appraisal is unduly delayed for reasons beyond the control of the university, the date may be extended.

13. McMaster University proceed with its plan for a significant increase in doctoral enrolment and a master's enrolment at about the present level in its economics programme for 1976-77; and that the area of public finance be strengthened.

14. The University of Ottawa discontinue admitting students to begin their studies in its general doctoral progamme in economics after the end of the Fall term of 1974. This action should be reviewed if the desirability of beginning a fifth general PhD programme becomes evident. Ottawa should proceed with its plan for an enrolment of about its present size in its master's programme in economics in 1976-77 but with a shift to more full-time students.

15. Queen's University proceed with its plan for a slight growth in its doctoral enrolment and for a roughly static master's enrolment in its economics programme up to 1976-77.

16. The University of Toronto proceed with its plan for a slight growth in its doctoral enrolment and for a roughly static master's enrolment in its graduate economics programme up to 1976-77.

17. The University of Waterloo proceed with its plan for a modest increase in its master's economics programme in 1976-77. It should not plan to initiate its proposed general doctoral programme in economics within the next five years.

18. The University of Western Ontario proceed with its plan for modest increases in both its doctoral enrolment and its master's enrolment in its economics programme up to 1976-77.

19. The University of Windsor proceed with its plan for a modest increase in the enrolment in its master's economics programme up to 1976-77. It should not plan to initiate a general doctoral programme in economics at least until the desirability of beginning a fifth general PhD programme becomes evident.

20. York University proceed with its plan for a roughly static enrolment in its master's economics programme up to 1976-77. A general doctoral programme should not be implemented before the desirability of beginning a fifth general PhD programme becomes evident.

21. In view of the acceptance of these recommendations by COU and the completion of the economics assessment, CUA request the Minister to remove the embargo on economics in accordance with the original announcement of the Minister that new graduate programmes would be embargoed until, for each discipline, a planning study has been conducted.

Notes concerning the recommendations

Re: Recommendation 1

The enrolment plans of the universities are shown in the first column of Table 1 in the ACAP report.

Re: Recommendation 2

The enrolment plans of the universities are shown in the first column of Table 3 in the ACAP report.

Re: Recommendation 4

This recommendation is not dependent on the previous existence of a doctoral programme in the university.

Re: Recommendation 8

This recommendation is not intended to limit opportunities for students to enrol in doctoral programmes on a part-time basis; rather it is directed at the difficulties in developing a part-time programme of high quality.

October 16, 1973

ADVISORY COMMITTEE ON ACADEMIC PLANNING

ONTARIO COUNCIL ON GRADUATE STUDIES

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REPORT TO THE COUNCIL OF ONTARIO UNIVERSITIES

ON

ECONOMICS PLANNING ASSESSMENT

August 28, 1973

PROCEDURE

On the advice of the Ontario Council on Graduate Studies, the Council of Ontario Universities on May 14, 1971, instructed the Advisory Committee on Academic Planning to conduct a formal planning assessment for economics.

A Discipline Group was formed consisting of a member named by each interested university. A list of members is attached as Appendix E. Professor E. Wright held the ACAP economics portfolio and attended meetings when ACAP representation was necessary.

The procedure and terms of reference for the planning assessment were approved by OCGS and COU, the latter's approval being received on February 4, 1972. This document is attached as Appendix D.

The Discipline Group began its meetings in October, 1971. In accordance with the procedure, the Discipline Group provided ACAP with a list of possible consultants. ACAP obtained the services of Professor R. E. Caves, Harvard University, Professor H. G. Johnson, University of Chicago, and the Honourable Dr. H. D. Hicks, Dalhousie University. Brief curricula vitarum appear as Appendix H. Senator Hicks played the role of the senior Canadian academic from outside the discipline in this planning assessment. The consultants held their first meeting in Toronto in May 1972, and discussed, with the Discipline Group, their schedule of visits to the universities. These began in July and continued through September.

The draft report of recommendations was presented to the Discipline Group for informal comments on March 20, 1973 and the final report was subsequently received and distributed March 29, 1973. The universities were requested to submit comments to ACAP by April 30, and the Discipline Group by May 11.

After receipt of the comments of the universities, a subcommittee of four ACAP members met to draft the ACAP recommendations to COU. This subcommittee felt that no interviews with university representatives would be necessary since, in this case, no obscure points were raised. The Discipline Group response and the comments of the universities appear in Appendices B and C respectively. The latter includes only those comments specified by each university for publication.

This report then is based on these data, reports and comments, and sets out recommendations for COU on the plan for graduate work in economics in the province for the next several years.

As is required, this report is made directly to COU. It has been transmitted, as well, to the Ontario Council on Graduate Studies and the Council of Deans of Arts and Science for information.

RECOMMENDATIONS

It is emphasized that the consultants' report contains a great deal of valuable advice. It is an essential and integral part of this report to COU. In the ACAP report itself we have dealt usually only with aspects of the consultants' report which seem to need comment, either because they are controversial, particularly significant, or in need of amplification.

The following are ACAP's recommendations adoption of which would constitute final formal action on this planning assessment.

C1

It is recommended that the method by which student places are distributed among graduate departments should be as described in the General Introduction to this report. (see pages A7 (Recommendation 12) and A138-A140)

C2

It is recommended that there be planned a modest increase in the Ontario M.A. enrolment, growing from the 1972-73 figure of 349 to about 400 by 1976-7. This will be achieved if the universities each plan in accord with their statements prepared for this planning assessment, viz. nearly static enrolment at Lakehead, McMaster, Ottawa, Queen's, Toronto and York, modest increases (ten or so) at Guelph, Waterloo, Western and Windsor, and an increase to about 60 at Carleton. If at any time a university intends to make provision to enrol numbers substantially different from those in this recommendation, it should so notify ACAP. (see pages A7 (Recommendation 13) and A6 (Recommendation 6) and page 8 of the Introduction to this report)

C3 a)

It is recommended that, subject to the provisos in parts b) and c) of this recommendation, COU and the universities accept as the plan for doctoral enrolment in 1976-7, the existence of four Ph.D. programmes at McMaster, Queen's, Toronto and Western with a total enrolment of about 235 students, that McMaster should endeavour to increase its enrolment to about 30, and that, while in principle the distribution of the remaining 205 students amongst the other three departments is a matter of indifference provided all remain of viable size, in fact each of these three departments should plan for only modest increases. If at any time a university intends to make budgetary or other provision to enrol numbers substantially different from these, it should so notify ACAP.

b) It is recommended that when Ph.D. enrolment in the province reaches 220 and if signs of continued growth are apparent, ACAP should examine the desirability of beginning a fifth Ph.D. programme.

C3 c)

As discussed in the text below, there may be exceptional circumstances in which a small and unusual doctoral programme would be justified. It is recommended that the provisions of the text be approved.

C4

It is recommended to the universities that they consider reviewing and tightening up their master's programmes as indicated below. (see pages A6 (Recommendation 1), A133 and A134)

C5

It is recommended to the universities that they consider reviewing and tightening up their doctoral programmes as indicated below. (see pages A6 (Recommendation 3), A91-94 and A134)

C6

It is recommended that the universities actively explore the possibilities of collaboration and sharing of facilities. (see pages A7 (Recommendation 10) and A137)

C7

It is recommended that there should be no formal distribution among universities of responsibilities for particular programmes and specialties. (see pages A7 (Recommendation 9) A97 and A137)

C8

It is recommended that no part-time doctoral programmes should be introduced. (see pages A6 (Recommendation 7) and A136)

C9

It is recommended that there should be experimentation with applied and interdisciplinary graduate programmes as long as the core of the discipline (economic theory and quantitative methods) is well covered. (see pages A7 (Recommendation 8) and A136)

C10

It is recommended that Carleton University discontinue admitting students for doctoral work in economics. This decision should be reviewed if the provincial doctoral enrolment reaches 220 and further growth is considered likely.

It is further recommended that Carleton plan for an enrolment of about 60 in its master's programme in 1976-77. (see pages A6 (Recommendation 4), A91, A105-107, A135 and A143)

C11

It is recommended that the University of Guelph plan for a modest increase consistent with Recommendation C2 in the enrolment in its master's programme up to 1976-77. (see pages A108-109)

C12

It is recommended that the master's programme in economics at Lakehead University be appraised. It is further recommended that it discontinue enrolment of new students after September, 1974 if favourable appraisal has not been obtained by that time and that it otherwise plan for a roughly constant enrolment. (see pages A6 (Recommendation 2), A91, A110-A111 and A134)

C13

It is recommended that McMaster University plan for a doctoral enrolment of about 30 and a master's enrolment at about the present level in its economics programme for 1976-77, and that the area of public finance be strengthened. (see pages A112-A113 and A142)

C14

It is recommended that the University of Ottawa discontinue admitting students to its doctoral programme in economics. This decision should be reviewed if the provincial doctoral enrolment reaches 220 and further growth is considered likely. The University of Ottawa should plan for an enrolment of about its present size in its master's programme in economics in 1976-77 but with a shift to more full-time students.
(see pages A6 (Recommendation 4) A91, A114-A115, A135 and A143)

C15

It is recommended that Queen's University plan for a slight growth in its doctoral enrolment and for a roughly static master's enrolment in its economics programme up to 1976-77. (see pages A116-118 and A142 and Recommendation C2 and C3)

C16

It is recommended that the University of Toronto plan for a slight growth in its doctoral enrolment and for a roughly static master's enrolment in its graduate economics programme up to 1976-77. (see pages A6 (Recommendation 5), A7 (Recommendation 11), A119-122 and A142 and Recommendation C2 and C3)

C17

It is recommended that the University of Waterloo plan for a modest increase consistent with Recommendation C2 in the enrolment in its master's economics programme in 1976-77. It should not plan to initiate its proposed doctoral programme in economics within the next five years. (see pages A6 (Recommendations 2 and 6), A123-A124 and A135-A136).

C18

It is recommended that the University of Western Ontario plan for modest increases consistent with recommendations C2 and C3 in both its doctoral enrolment and its master's enrolment in its economics programme up to 1976-77. (see pages A125-A127 and A142)

C19

It is recommended that the University of Windsor plan for a modest increase consistent with Recommendation C2 in the enrolment in its master's economics programme up to 1976-77. It should not plan to initiate a doctoral programme in economics at least until the provincial enrolment reaches 220 and further growth appears likely. (see pages A6 (recommendation 6), A128-A129 and A135-A136)

C20

It is recommended that York University plan for a roughly static enrolment in its master's economics programme up to 1976-77. A doctoral programme should not be implemented before the provincial enrolment reaches 220 and further growth appears likely. (see pages A6 (recommendation 6), A130-A131 and A135-A136)

C21

It is recommended that COU adopt the recommendations of this report, inform CUA that it has adopted these recommendations and request that the embargo on economics be now removed, in accordance with the original announcement of the Minister that new graduate programmes would be embargoed until, for each discipline, a planning study had been conducted.

GENERAL INTRODUCTION

Planning Techniques

For some years now, the universities of Ontario have been committed to the belief that the quality and effectiveness of graduate study in the province can be ensured only by collective and cooperative action. This implies a mechanism for continuing consultation and agreement so that the plans of each university for each of its disciplines are concerted with those of the other universities. At any given time there will exist a plan for the development of each discipline, with agreed and understood roles for each department; since graduate education is the most advanced formal intellectual activity and is, therefore, undergoing change, it is necessary that such plans be kept under regular review and be subject to ready amendment.

The Council of Ontario Universities has assigned to the Ontario Council on Graduate Studies the task of advising it on the development of such plans and of the steps to be taken to carry them into effect. The Standing Committee which carries out these tasks for OCGS is the Advisory Committee on Academic Planning. A significant role is also played by the discipline groups, one of which is established for each subject, with a representative from each interested university. Each discipline group has the function of assisting and advising ACAP in connection with its own subject.

The above may give the impression that the planning activity is fragmented on a disciplinary basis. This would, of course, not be acceptable. Since the development of one department in a university should not be considered independently of its contribution to the rest of its university and of the influence of the university as a whole on the department, it is most important that universities as institutions play a central role in the planning process. One of the most effective ways of doing this is by indicating to ACAP the nature of institutional commitments to a department and institutional aspirations for the department.

The most significant single input to a planning assessment is the set of statements from each university of its plans for its department. When these are subjected to collective scrutiny it may be found that their totality constitutes a reasonable plan for the discipline in Ontario, but in any case this set of plans is the first approximation to the provincial plan, which the planning assessment may have to refine if there are duplicated features, lacunae in offerings, too large a total enrolment, or other reasons to recommend altering some of the university plans. The universities are also involved in that the bodies that act on ACAP reports, i.e. both COU and OCGS, are composed of universities.

The formal documents stating the responsibilities of ACAP and the Discipline Groups are Appendix F. Briefly summarized, it is ACAP's function to advise on steps to be taken to implement effective provincial planning at the graduate level, to promote the arranging of the graduate programmes of the province in order to enhance and sustain quality and to avoid undesirable duplication, and, when necessary, to carry out formal planning reviews for disciplines. A discipline group has the responsibility of keeping under review the plans for graduate work in the discipline and making regular progress reports to ACAP in connection with graduate work in that subject. To make all this possible, it has been agreed that ACAP may communicate directly with universities and discipline groups, to request necessary information, to discuss reports, to convene meetings, and to make and receive proposals for the future.

The above information has been given in some detail because it constitutes the mechanism currently approved by COU for cooperative graduate work. It is fair to say that in 1971 there was no mutually agreed plan for graduate study in any discipline. Our task is not only to generate the first such plan for each subject but also to ensure that it is kept under continual review.

There are four fundamental components in the plan. The first is analysis of the fields of study, the formats of study which should be available to prospective students in the province. The second is an estimate of overall provincial enrolment at master's and doctoral levels based principally on the likely numbers of highly qualified applicants. In regard to considerations of manpower needs for the province of Ontario, ACAP is conscious of the unreliability of forecasts and, except in special cases, subscribes to the approach proposed in the Macdonald Report (1969):

> "The country as a whole and the provinces must be concerned about manpower requirements. This concern can be expressed in the first instance through careful survey and forecasting of manpower needs on a continuing basis. Such forecasts should be given wide circulation. It is reasonable to expect that universities will respond by creating additional opportunities for study in the areas of shortage. In addition, the universities through their counselling services have a duty to advise students about the opportunities in various fields from the standpoint not only of intellectual challenge but also of vocational prospects and social utility. The reaction of prospective students to such forecasts is likely to provide an effective control. We believe the market-place, if its trends are made explicit, offers an adequate governor to prevent serious surfeit and to encourage movement of students toward fields of opportunity."

The third component of the plan is an indication of the role to be played by each department in terms of the programme it will offer and its academic emphasis. Cooperative arrangements between departments are stressed. The fourth component consists of an examination of the enrolment plans of the universities and consideration as to whether the universities' plans and the predicted enrolment for this discipline are consistent. If not, some appropriate action should be recommended to COU. It will be seen that although there may also be other aspects, these are four necessary components in such a plan.

In the economics assessment, the consultants' recommendations which bear on enrolment are as follows:

(13) "Significant increases in M.A. enrolments are proposed only by Carleton and Ottawa, and these are reasonable. A modest increase in Ontario's total output of M.A.s seems appropriate in light of employment trends."

(14) "Any significant increase in Ph.D. production would entail a decline in quality, and is not required to serve Canada's needs. We approve of some increase in Ph.D. enrolments: a doubling at McMaster and a modest increase at Toronto."

(4) "The Ph.D. programmes at Ottawa and Carleton are not needed on the criterion of supplying enough trained economists to the province."

It seems then that there should not develop a mismatch between the recommended provincial total and the plans of the several universities, provided the universities do not alter the plans stated in their submissions to this planning assessment, and provided Carleton and Ottawa do not propose to operate general Ph.D. programmes. Consequently in this report our recommendation C2 about M.A. enrolments simply recites the plans of the universities as we understand them, recommends a total enrolment for 1976-77 be about 400, and asks that if any university intends to amend its plan, ACAP be notified. Recommendation C3 about Ph.D. enrolment similarly echoes the consultants' recommendation, but goes beyond the consultants to suggest that there may be strong reasons to begin a fifth general programme in due course when there appears to be a sufficiency of students to populate it. Recommendation C3 also contemplates the possibility (to be tested by an appraisal) that an academically sound programme could be designed with a small limited enrolment, and if a university has reasons to offer such a programme, it could be a component of the provincial plan.

One must hasten to add that the future is uncertain and that to forecast intellectual trends, student interests, and employment markets five years hence is to undertake to examine many variables. Of course, this is not a new exercise since all universities have had to make decisions about building, staff hiring, library expansion, equipment investment and so forth and have done so on a basis of similar forecasts. Perhaps sometimes the forecasts have been more intuitive than consciously recognized, but they have certainly been there. All that is new is to make such plans systematically for the province.

It will be realized that, at a minimum, the ongoing planning procedures we have indicated requires annual reporting of enrolments and annual examination of admission standards. When there are indications from these or other sources that some aspects of the plan for the discipline are not being realized, it will be necessary for ACAP to initiate a review. Such a review would usually not involve outside consultants. Whether the impetus came from a discipline group, a university or ACAP itself, comments would be sought from all concerned and the review would culminate in a report to COU recommending an amendment to the plan.

If a university notifies ACAP of its intention to depart from its accepted role (for example to enrol numbers substantially at variance with its understood plan), ACAP will review the situation in the light of any other such notifications it may have received and any other pertinent factors. The extent of any further study would depend on the situation, but if ACAP felt that the university's new plan could be a cause for concern, its first step would be to seek full discussion with the university. Normally there would already have been discussion in the discipline group and between universities and the university would have reached its intention after a careful examination of the general situation of graduate study in the discipline. Thus the ACAP decision would be straightforward and a change in plan would be recommended to COU through OCGS. If, however, ACAP still felt that there was a probability that the university's action might be found, on further study, to be potentially harmful to the system, it would probably next seek comment from other universities concerned and from the discipline group. In any case, ACAP would eventually make some recommendation to COU (through OCGS) concerning the variation.

It is difficult without a concrete case to speculate on likely recommendations, but perhaps two hypothetical situations will illustrate the extremes. If a university indicated that, without any marked change in the academic emphasis of its department, it proposed to arrange to enrol somewhere around 70 graduate students instead of about 50, and if there were no changes at other universities and no potential developments which could be substantially affected, ACAP would presumably simply notify COU of the university's intention and recommend that it be recognized as an alteration in plan for the discipline. At the other extreme if a university proposed to begin a new programme designed to enrol fairly soon some 30 Ph.D. students in a field of the discipline already well covered in other universities, it would clearly be necessary to obtain reaction from the discipline group and from other universities and perhaps even some expert advice, in order for ACAP to generate an advisory position concerning the impact of the proposal on the system and suggestions to the university concerned and to COU. As has been noted, if there had been advance inter-university discussions and agreement, this would be a positive factor in ACAP's assessment, but there is of course the possibility that the recommendation would call for modification of the university's intention; we take that to be the obvious consequence of system planning. Of course, the university could decide to act in a manner contrary to a COU recommendation, accepting whatever consequences would result; we take that to be the basic right of university autonomy.

It seems desirable to comment on the scope of this planning study. Let us say first what it is not. It is not an exercise in 'evaluating' departments; its purpose is to plan, not primarily to evaluate. In order to plan within the provincial system one must have some appreciation of quality and strength of current activity in each university and one must make choices partly on this basis, but one need not decide every aspect of the relative pecking order. One can find examples where a relative comparison is necessary in order to justify some aspect of the plan, but this does not alter the fact that our work is not, primarily, an 'evaluation.'

Secondly, our task is not to plan for departments in toto. Attention is confined to the graduate studies programme. Consequently, we are involved with only a segment of the research activity; namely, that segment which involves graduate students. We do not concern ourselves with undergraduate offerings except insofar as they might be affected by proposals at the graduate level and here we rely on each university to make us aware of any such situations which appear to raise difficulty.

Finally, an ACAP report is not a study of departments. It is an effort to plan the graduate work in Ontario in a certain broad field of study - economics. Since the internal organization of universities is quite varied and a given subject may be pursued in quite different places within the departmental structure on different campuses, the only convenient approach to planning is to cut across departmental boundaries when necessary. ACAP has found instances of this in almost every one of the eighteen planning studies in which it is currently engaged.

Since reference is later made to the Appraisals Committee, a few words on its function might be useful at this point. The Appraisals Committee, confining itself to a single programme, decides whether that programme has the level of staff competence, academic structure, research and library resources, etc. necessary to ensure that its students will receive an acceptable training and will on graduation be accepted as qualified. Each university in the province has undertaken not to begin new programmes or major new fields in existing programmes without reference to the Appraisals Committee. Frequently, in this latter case (new fields) the committee decides that an appraisal is not necessary. This point should be recalled in some cases where new fields are recommended in this Report.

Since there are degrees of acceptability, some standard of comparison is necessary in conducting an appraisal. Since the beginning of the appraisal system, the standard has usually been defined as that generally found in the academic world. Now that some planning assessments have led to the agreement of COU that certain programmes have an acceptable standard, we suggest that for the next few years future appraisals on those subjects should take account of the standard of the accepted Ontario departments at the time of the appraisal. The Appraisals Committee has still to consider this in detail.

The consultants have summarized their recommendations concerning graduate work in economics at the beginning of their report on pages A6 and A7. These recommendations are described in more detail in Chapter V of the consultants' report (pages A132-A143). However, the numbers of the ACAP recommendations do not coincide with those of the consultants since ACAP has a recommendation for each university involved in graduate work in economics. To avoid possible confusion, we shall prefix our recommendations with the letter C, indicating that they are recommendations to COU.

Please note that ACAP does not attempt to provide full rationale for its recommendations. This document must be read in conjunction with the consultants' report (Appendix A) and appropriate references to it appear for each recommendation.

The recommendations can be divided into two groups. The first group of recommendations deals with economics graduate work in general, and with enrolment recommendations from the system viewpoint. The second group is more specific in nature and deals with the roles of the individual universities.

SYSTEM RECOMMENDATIONS

Recommendation C1

> It is recommended that the method by which student places are distributed among graduate departments should be as described in the General Introduction to this report. (see pages A7 (Recommendation 12) and A138-A140)

The consultants recommend that distribution of students should not be attempted by central control of admission standards, discrimination against non-resident students or allocation of quotas among departments. The discussion on pages 7, 8 and 9 in the General Introduction concerning the distribution of graduate student enrolment is consistent with the consultants' recommendation. The adoption by each university of a flexible enrolment level for its internal planning and budgeting is consistent with the consultants' wish to prevent rigidity, and to encourage rivalry.

We also note that the consultants support another important facet of the COU proposals for the graduate studies system, viz. centrally awarded portable scholarships (page A140).

Recommendation C2

> It is recommended that there be planned a modest increase in the Ontario M.A. enrolment, growing from the 1972-73 figure of 349 to about 400 by 1976-7. This will be achieved if the universities each plan in accord with their statements prepared for this planning assessment, viz. nearly static enrolment at Lakehead, McMaster, Ottawa, Queen's, Toronto and York, modest increases (ten or so) at Guelph, Waterloo, Western and Windsor, and an increase to about 60 at Carleton. If at any time a university intends to make provision to enrol numbers substantially different from those in this recommendation, it should so notify ACAP. (see pages A7 (Recommendation 13) and A6 (Recommendation 6) and page 8 of the Introduction to this report)

The current enrolments are shown in Table 1 together with a possible distribution for 1976-77 which is consistent with this recommendation. These figures represent a modest increase in master's enrolment as a means of increasing the total output of M.A.'s. After examining the demand for economists the consultants suggest that a small increase in M.A. enrolment is appropriate. However, their estimate may be conservative because of the increasing demand for persons with training in economics but working in other fields.

TABLE 1

Master's Enrolment (F.T. and P.T.) for 1967-73, and A Set of Planning Levels for 1976-77 Consistent with Recommendation C2

University	1976-77	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
Carleton	60	14	22	25	42	40	29
Guelph	12	1	4	6	5	3	6
Lakehead	**12	1	1	4	10	12	12
McMaster	40	15	31	30	37	30	39
Ottawa	*80	16	68	98	82	68	81
Queen's	45	52	45	51	45	44	45
Toronto	35	33	30	36	40	16	38
Waterloo	20	--	--	--	1	9	13
Western	30	25	23	26	27	32	20
Windsor	25	6	8	7	13	19	19
York	45	--	--	10	40	47	47
TOTAL	404	163	232	293	342	352	349

* Although the total enrolment figure remains at 80, the projected enrolment for the University of Ottawa includes a large increase in full-time enrolment.

** An enrolment projection was not made by Lakehead University.

Recommendation C3

a) It is recommended that, subject to the provisos in parts b) and c) of this recommendation, COU and the universities accept as the plan for doctoral enrolment in 1976-77, the existence of four Ph.D. programmes at McMaster, Queen's, Toronto and Western with a total enrolment of about 235 students, that McMaster should endeavour to increase its enrolment to about 30, and that, while in principle the distribution of the remaining 205 students amongst the other three departments is a matter of indifference provided all remain of viable size, in fact, each of these three departments should plan for only modest increases. If at any time a university intends to make budgetary or other provision to enrol numbers substantially different from these, it should so notify ACAP.

b) It is recommended that when Ph.D. enrolment in the province reaches 220 and if signs of continued growth are apparent, the desirability of beginning a fifth Ph.D. programme should be examined.

c) As discussed in the text below, there may be exceptional circumstances in which a small and unusual doctoral programme would be justified. It is recommended that the provisions of the text be approved.

TABLE 2

Ph.D. Enrolment in Economics for 1967-73

University	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
Carleton	--	--	4	10	12	9
McMaster	--	--	3	12	14	20
Ottawa	1	3	2	3	7	4
Queen's	36	41	42	50	73	67
Toronto	46	51	55	58	54	61
Western	17	25	32	48	49	48
TOTAL	100	120	138	181	209	209

Table 2 shows current enrolments and Table 3 shows examples of distributions for 1976-77 which are consistent with Recommendation C3. Column 1 of Table 3 is very close to the projections made for this planning assessment by each university. Although an enrolment in excess of the 235 shown can be accommodated at the four universities shown in Table 3, this may not be the most advantageous policy since there may be one or more universities where an economics department with a doctoral programme may be considered an important priority because of the university's overall goals. If a university were to decide to give priority to the social sciences, over other fields, it might wish to make a special effort to offer the Ph.D. in economics. Likely universities are Carleton* and York, but we do not intend to preclude other possibilities. When the provincial doctoral enrolment reaches 220, and if there are at that time signs of further growth, it would be possible to accommodate another general programme with an enrolment of about 30. For example, an enrolment of 250 could be distributed 25, 29, 75, 72 and 48. No general programme should plan an enrolment fewer than 25 to 30 for academic reasons related to the nature of economics. While in geography, for example, one can contemplate a doctoral enrolment of as little as ten, this is because a department with this population will be specializing in at most two of the major fields of geography, and of these one is selected for primary emphasis. But the consultants advise strongly against field specialization for economics (see Recommendation 6 on A6) and this implies a larger size for the minimum-sized student body which allows reasonably populated seminars and the informal intellectual cross-fertilization which is so important to the developing scholar and which takes place in groups of students of similar interests. The appropriate size of a graduate programme is discussed by the consultants on pages A90-A91. Their recommendation regarding McMaster would suggest a minimum number of 25 to 30 students for a standard Ph.D. programme in economics.

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* or a Carleton-Ottawa collaboration

From the above we deduce two acceptable models for 1976-77, one with four universities and the other with five. Our recommendation is that no decision can be made to have five general Ph.D. programmes until the total enrolment reaches 220, and then only if further increase can be seen.

In Table 3 below, column 1 shows the distribution for 1976-77 projected by the universities. The figures in Table 3 are intended as three-year averages. Columns 2 and 3 show other distributions that could arise under the mechanism recommended in this report. If the actual average enrolments looked like columns 4, 5 or 6, we would want to re-examine the plan, since our recommendation looked for modest growth in each of the three larger programmes, but these results are quite improbable in three years starting from the present base. Columns 7 and 8 show two different ways a five-programme distribution could work out in one of the years when the fifth programme was still growing towards its target of 25. These show that with 235 students a fifth programme is feasible, but column 9 makes clear that the enrolment must reach at least 245 three or four years after the fifth programme begins. Otherwise it will fail to achieve academic viability, since it is unreasonable to expect the enrolment of the three well established departments to fall significantly, i.e. they will continue to account for at least 175 or 180 of the total.

TABLE 3

Possible Enrolment Patterns (Three-Year Averages)

University	1	2	3	4	5	6	7	8	9
Programme X							15	15	25
McMaster	30	25	35	40	25	20	28	25	28
Queen's	80	70	70	60	100	60	74	70	75
Toronto	75	80	70	60	55	100	71	70	70
Western	50	60	65	65	55	55	47	60	47
TOTAL	235	235	240	235	235	235	235	240	245

Some have expressed the view that students can receive as good a training in a doctoral programme in which the enrolment is lower than others in that discipline would consider to be the critical size. In general, and recognizing that the critical size varies markedly from discipline to discipline, we do not accept this view, since one of the most significant aspects of the maturing process of the young scholar is the searching question and the tentative answer, the thrust and parry of informal scholarly conversation with his peers. Just as significantly and for the same reasons, advanced seminars and courses require reasonable population. It is sometimes said that staff-student contact is better when enrolment is small. But a doctoral student interacts mostly with one staff member, his major adviser, and since teaching loads are not noticeably different in smaller departments (heavier if anything) and since the number of graduate students per supervisor does not vary much from department to department, it is hard to see why the individual doctoral student would get any more of the time of the individual professor when the doctoral enrolment is low--and he would miss the interaction with his peers.

Despite the above general position, there may be very special circumstances in which a small programme could provide a good doctoral training and if a university wished to support a department in such a venture and if the careful examination inherent in an appraisal showed that special conditions did exist, it would be reasonable not to prohibit the programme. It would have been appraised on rigorous academic criteria including the fact of its small enrolment and would be limited to that enrolment. (We think of a total enrolment of up to 10, which would not distort the overall enrolment pattern.) We give no examples of such a case, because we emphasize that it would be very unusual.

Recommendation C4

> It is recommended to the universities that they consider reviewing and tightening up their master's programmes as indicated below. (see pages A6 (Recommendation 1), A133 and A134)

The consultants recommend that the economics departments place more emphasis on theory and quantitative methods, streamline and consolidate optional courses and reduce the weight of or eliminate the MA thesis requirement. ACAP suggests that economics departments take note of the consultants' judgment of the need for placing more emphasis on theory and quantitative methods and for consolidating optional courses. However, there are differing points of view regarding the MA thesis. Although it is unlikely to constitute a significant contribution to knowledge, it represents an accepted learning process on the part of the student. The universities should consider the place of an MA thesis in their review of the master's programme.

ACAP suggests that the universities consider the views expressed by the consultants in this recommendation even though the areas of course content and teaching method are outside the scope of this report.

Recommendation C5

> It is recommended to the universities that they consider reviewing and tightening up their doctoral programmes as indicated below. (see pages A6 (Recommendation 3), A91-04 and A134)

The consultants recommend that the economics departments place more emphasis on theory and quantitative methods, streamline and consolidate optional courses and substitute formal instructional courses for reading courses and seminars.

ACAP suggests that economics departments take note of the consultants' recommendations in considering the direction of their programmes even though the areas of course content and teaching method are outside the scope of this report.

Recommendation C6

> It is recommended that the universities actively explore the possibilities of collaboration and sharing of facilities. (see pages A7 (Recommendation 10) and A137)

Although the geography of Ontario may sometimes act as a handicap against collaboration, the potential gains from such collaboration are significant and thus should be actively explored. ACAP notes with approval the inter-university arrangements which already exist between several Ontario universities.

Recommendation C7

> It is recommended that there should be no formal distribution among universities of responsibilities for particular programmes and specialties. (see pages A7 (Recommendation 9) A97 and A137)

At any given time, a department has competence to offer courses and supervise theses in particular areas. In their report, the consultants have indicated the areas of economics in which each department is at present adequate for instruction. ACAP urges the universities to consider the consultants' view concerning areas of competence for each department.

An appraisal also determines the areas in which the department has competence to offer thesis work. If a department wants to offer work in a new area within the discipline, the Appraisals Committee is to be asked to consider whether or not an appraisal is called for.

Recommendation C8

> It is recommended that no part-time doctoral programmes should be introduced. (see pages A6 (Recommendation 7) and A136)

ACAP concurs with the consultants' recommendation. Although part-time programmes may be useful at the master's level, they do not seem desirable at the doctoral level. Pursuit of a PhD requires full-time concentrated effort. If a university specifically wanted to develop a part-time programme, it should have this proposal appraised. However, this does not preclude a university from occasionally accepting students on an individual basis to work towards a PhD by an agreed programme of part-time study.

Recommendation C9

> It is recommended that there should be experimentation with applied and interdisciplinary graduate programmes as long as the core of the discipline (economic theory and quantitative methods) is well covered. (see pages A7 (Recommendation 8) and A136)

ACAP cannot agree with the view taken by the consultants that applied and interdisciplinary work be discouraged. Accepting that economics departments should concentrate on consolidating and improving existing programmes to increase the quality of these programmes and the proportion of completed degrees, a case can also be made for more applied and interdisciplinary programmes provided there is a demonstrated need for graduates of such programmes. The comment by Carleton University also argues for interdisciplinary programmes. This comment notes that "economics as a discipline has an important, in many cases an essential role, in interdisciplinary studies". (Appendix C, page C-10)

ACAP notes with approval the plans at the University of Toronto to offer graduate programmes in Applied Economics and Public Policy. This programme takes advantage of the joint department of economics and political science and is a redeployment of existing strength.

Collaboration also exists at Carleton at the MA level between the Department of Economics and the School of International Affairs, the School of Public Administration, the Institute of Canadian Studies and the Institute of Soviet and East European Studies. Students enrolled in these Schools and Institutes take courses offered by the Department of Economics. Also Economics faculty are involved in courses offered by these Schools and Institutes. (The programmes at the Schools and Institutes exist at the MA level only.) ACAP encourages this type of collaboration.

Some economists have commented that the present state of the programmes in Ontario is such that the consultants are correct in discouraging interdisciplinary work at the present time until the core is better covered. If this view is correct, this ACAP recommendation may be questioned. Since the Discipline Group has made no comment, ACAP has no consensus of disciplinarily expert opinion on this point.

RECOMMENDATIONS FOR UNIVERSITIES

In each case when field specializations are mentioned in the following text they should be read in conjunction with Recommendation C7.

Recommendation C10

> It is recommended that Carleton University discontinue admitting students for doctoral work in economics. This decision should be reviewed if the provincial doctoral enrolment reaches 220 and further growth is considered likely.
>
> It is further recommended that Carleton plan for an enrolment of about 60 in its master's programme in 1976-77. (see pages A6 (Recommendation 4), A91, A105-A107, A135 and A143)

The PhD programme at Carleton was initiated in 1969 after obtaining a successful appraisal. This appraisal was based on the university's expectation of a viable number of students enrolling in the programme.[1] This enrolment expectation has not been met and current enrolment is less than was anticipated by the university. The consultants feel that Carleton's economics staff is not fully adequate for PhD instruction; although it is certainly adequate in the policy oriented areas, they note that it is not strong in economic theory or quantitative methods. As the consultants indicate on page A94, these latter areas form the base for graduate instruction in economics. But we do not take this as evidence that Carleton's PhD programme could not sustain an appraisal; on the contrary we assume it could, except for the lack of sufficient enrolment to provide a satisfactory intellectual milieu.

Our recommendation that this programme be discontinued, like the consultants' similar recommendation, is made on the basis that with current and foreseeable doctoral enrolments the province can sustain only four programmes as discussed in Recommendation C3. In recommending that Carleton, Ottawa and York be the three existing or appraised doctoral programmes which should not operate, the consultants are making comparative judgements, without necessarily implying that any of them would fail on appraisal. We stress this point in order to make it clear that any appraisal action would be irrelevant to this recommendation.

On page 16, we have discussed the possibility of there being quite special circumstances in which a doctoral programme of small enrolment could be academically sound. If in the light of this report, the university does believe it has some special offering, and if the university is prepared to support it, then it would be necessary to secure an appraisal for this particular programme of limited enrolment. Approval for a small programme should be contingent on an undertaking by the university to limit the enrolment (we have a total of about 10 in mind).

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[1] The appraisal document envisages "13 to 18" full-time PhD students in the two compulsory years of residence after the M.A. Since four post M.A. years is usual, particularly for students who become part-time, the anticipated enrolment would be in the range of about 25-35.

When doctoral enrolment grows to 220 students in the province as a whole, the demand will permit, if further growth appears likely, another general doctoral programme in the province. If the university should intend to revive its present PhD programme at that time, it should be appraised according to the standard of quality prevalent in the province at the time of the appraisal, rather than a more vaguely defined "acceptable level of competence."

The consultants note that the department's strength is quite adequate for instruction at the master's level. ACAP recommends that master's enrolment should be increased (see Table 1) as proposed by the university. Also at the master's level, ACAP encourages the collaboration between the Department of Economics and the School of International Affairs, the School of Public Administration, the Institute of Canadian Studies and the Institute of Soviet and East European Studies.

Recommendation C11

> It is recommended that the University of Guelph plan for a modest increase consistent with Recommendation C2 in the enrolment in its master's programme up to 1976-77. (see pages A108-A109)

The consultants note that the University of Guelph is easily adequate for M.A. instruction in labour/human resources, economic history and public finance.

Recommendation C12

> It is recommended that the master's programme in economics at Lakehead University be appraised. It is further recommended that it discontinue enrolment of new students after September 1974 if favourable appraisal has not been obtained by that time and that it otherwise plan for a roughly constant enrolment. (see pages A6 (Recommendation 2), A91, A110-A111 and A134)

The economics programme at Lakehead University was initiated in 1967 and has never had an appraisal. The consultants recommend that it be appraised. Assuming a favourable outcome of the appraisal, we have included an enrolment of 12 in Table 1.

Recommendation C13

> It is recommended that McMaster University plan for a doctoral enrolment of about 30 and a master's enrolment at about the present level in its economics programme for 1976-77; and that the area of public finance be strengthened. (see pages A112-A113 and A142)

The doctoral economics programme at McMaster University was initiated in 1969 after obtaining a successful appraisal. Since then, enrolment has grown as anticipated, by the University. At the PhD level, the consultants feel the department's strength is adequate in economic theory, quantitative methods, international economics and monetary economics. However, it needs to be strengthened in the area of public finance. The university comment notes that some strengthening has already occurred in this area.

Recommendation C14

> It is recommended that the University of Ottawa discontinue admitting students to its doctoral programme in economics. This decision should be reviewed if the provincial doctoral enrolment reaches 220 and further growth is considered likely. The University of Ottawa should plan for an enrolment of about its present size in its master's programme in economics in 1976-77 but with a shift to more full-time students.
> (see pages A6 (Recommendation 4) A91, A114-A115, A135 and A143)

The consultants note that the department's resources are somewhat thin to offer the Ph.D. degree but the staff of the department is adequate for instruction in the fields of theory, econometrics, operations research and economic history. On the other hand, the department has apparently not attracted students, the enrolment averaging 3 or 4 (see Table 2).

The university mentions bilingual factors, but the enrolment evidence tends to show that there is no great current demand for a bilingual doctoral degree in economics at the University of Ottawa.

The university comment envisages the continuation of a doctoral programme of small enrolment. On page 16, we have discussed the possibility of there being quite special circumstances in which this could be academically sound. If in the light of this report, the university does believe it has some special offering, and if the university is prepared to support it, then, in our view, it would be necessary to secure an appraisal for this particular programme of limited enrolment. Approval should be contingent on an undertaking by the university to limit the enrolment (we have a total of about 10 in mind).

When doctoral enrolment grows to 220 students in the province as a whole, the demand will permit, if further growth appears likely, another general doctoral programme in the province. If the university should intend to revive its present PhD programme at that time, it should be appraised according to the standard of quality prevalent in the province at the time of the appraisal, rather than a more vaguely defined "acceptable level of competence."

Recommendation C15

> It is recommended that Queen's University plan for a slight growth in its doctoral enrolment and for a roughly static master's enrolment in its economics programme up to 1976-77. (see pages A116-A118 and A142 and Recommendations C2 and C3)

The consultants consider that Queen's University has attained international distinction in the fields of economic history, macroeconomics, public finance and international trade and its strength is adequate for instruction in other fields of specialization in which comprehensive examinations for the Ph.D. are offered.

Recommendation C16

> It is recommended that the University of Toronto plan for a slight growth in its doctoral enrolment and for a roughly static master's enrolment in its graduate economics programme up to 1976-77. (see pages A6 (Recommendation 5), A7 (Recommendation 11), A119-A122 and A142 and Recommendations C2 and C3)

The consultants consider that the University of Toronto has achieved international distinction in economic history, public finance, international trade and industrial organization and is competent to offer instruction at the doctoral level in several other fields.

The consultants recommend that the University of Toronto consider separating its Department of Political Economy into an economics department and a political science department. ACAP makes no comment on the internal organization of a university. One of the consultants also recommends that the graduate programme in economic history should be appraised (page A135). ACAP recommends that the University of Toronto consider this recommendation and the reason for it.

Recommendation C17

> It is recommended that the University of Waterloo plan for a modest increase consistent with Recommendation C2 in the enrolment in its master's economics programme in 1976-77. It should not plan to initiate its proposed doctoral programme in economics within the next five years. (see pages A6 (Recommendations 2 and 6, A123-124 and A135-A136).

The master's programme at the University of Waterloo is only in its third year of operation and it seems premature for the University of Waterloo to contemplate a doctoral programme for some time.

The consultants recommend that the master's programme at the University of Waterloo should be appraised. An early appraisal seems inappropriate, since this programme was successfully appraised in July, 1970 and has not lost strength in the interval. In response to an inquiry from ACAP, the consultants have clarified their view and suggest that the programme is encountering transition problems and is not yet firmly established. An appraisal in two years time might be in order.

Recommendation C18

> It is recommended that the University of Western Ontario plan for modest increases consistent with Recommendations C2 and C3 in both its doctoral enrolment and its master's enrolment in its economics programme up to 1976-77. (see pages A125-A127 and A142)

The consultants consider that the University of Western Ontario has achieved international distinction in the fields of international trade, econometrics and macroeconomics and is also competent to offer doctoral instruction in theory, economic history, development and human resources.

Recommendation C19

> It is recommended that the University of Windsor plan for a modest increase consistent with Recommendation C2 in the enrolment in its master's economics programme up to 1976-77. It should not plan to initiate a doctoral programme in economics at least until the provincial enrolment reaches 220 and further growth appears likely. (see pages A6 (Recommendation 6), A128-A129 and A135-A136)

The consultants note that the University of Windsor is adequate to offer M.A. level instruction in human resources, economic development, area studies (Latin America and Eastern Europe), trade and economic theory.

ACAP notes that the proposed Ph.D. programme at the University of Windsor has not been appraised. We recommend that any appraisal should use as a standard of quality that prevalent in the province at the time of the appraisal, rather than a more vaguely defined "acceptable level of competence".

Recommendation C20

> It is recommended that York University plan for a roughly static enrolment in its master's economics programme up to 1976-77. A doctoral programme should not be implemented before the provincial enrolment reaches 220 and further growth appears likely. (see pages A6 (Recommendation 6), A130-A131 and A135-A136)

ACAP notes that the proposed Ph.D. programme at York University was successfully appraised in February, 1973. If York does move into doctoral work in a few years, the Appraisals Committee would have to decide if the previous appraisal had lapsed. We recommend that any future appraisal should use as a standard of quality that prevalent in the province at the time of the appraisal, rather than a more vaguely defined "acceptable level of competence". When the doctoral enrolment in the province as a whole reaches 220, the demand will permit, if further growth appears likely, another Ph.D. programme. At such time, another doctoral programme might be initiated.

RECOMMENDATION FOR COU ACTION

Recommendation C21

> It is recommended that COU adopt the recommendations of this report, inform CUA that it has adopted these recommendations and request that the embargo on economics be now removed, in accordance with the original announcement of the Minister that new graduate programmes would be embargoed until, for each discipline, a planning study had been conducted.

APPENDIX A

BEST COPY AVAILABLE

REPORT OF THE ECONOMICS CONSULTANTS
TO THE
ADVISORY COMMITTEE ON ACADEMIC PLANNING
ONTARIO COUNCIL ON GRADUATE STUDIES
ON
GRADUATE PROGRAMMES IN ECONOMICS IN ONTARIO

By Richard E. Caves, Professor of Economics,
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Dalhousie University

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The London School of Economics and the
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February, 1973

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Dr. M. A. Preston
Council of Ontario Universities
102 Bloor St. West
Toronto 181, Ontario, Canada

Dear Dr. Preston:

We have pleasure in transmitting to you the Report of the Economics Consultants on Graduate Programmes in Economics in Ontario. We trust that it is in conformity with our Terms of Reference. In writing it, we have had to deal with a number of general issues which we hope will be of interest for the disciplines.

Yours sincerely,

Richard E. Caves

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Harvard University

Henry D Hicks

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CHAPTER I

INTRODUCTION AND SUMMARY

INTRODUCTION AND SUMMARY

This chapter sets forth the terms of reference for our assessment of graduate instruction in economics and describes the procedure of our investigation. It also provides a summary of our principal findings.

I. Terms of Reference and Procedure

The terms of reference provided by the Advisory Committee on Academic Planning (see page D.1) call for us to report on the "adequacy of the present state of graduate work in economics in the province in general and in each university where applicable." The report is to discuss:

(a) coverage of divisions and specialties, and extent of activity in each;

(b) faculty quality and quantity;

(c) nature of programmes offered;

(d) enrollment size and distribution amongst universities and divisions;

(e) quality of student body and admissions requirements;

(f) relationship to related disciplines;

(g) physical facilities;

(h) other matters considered significant by the consultants.

Our recommendations are to cover the development of graduate work in economics in Ontario between 1973 and 1983, in more detail through 1978.

They are to deal with:

(a) programmes to be offered, including the need for starting new ones or terminating present ones;

(b) desirable provincial enrollments, year by year, given the balance of demand and supply for trained personnel in the appropriate markets;

(c) distribution of programmes, specialties, and enrollments among universities;

(d) desirable extent of involvement with related disciplines;

(e) various types of allocation systems for influencing the amount and distribution of graduate work in economics in Ontario.

A large amount of information was prepared for our use by the eleven departments now offering graduate training in economics. Extensive analyses of these data were undertaken by research staff at the Council of Ontario Universities and by the consultants themselves. Further evidence, especially on the demand for and utilization of trained economists, was obtained from various offices of the federal government and from documents prepared by the federal and provincial governments and the Canadian Association of Graduate Schools.

An important part of our investigation consisted of visits to the eleven departments offering graduate instruction. Undertaken by at least two of the consultants, these visits supplemented our statistical materials in various ways. They permitted discussions of programme rules, the faculty's experience in development of the graduate programme, and the plans of appropriate administrators for the future development of the department and the university. They gave us some impression--admittedly casual--of the quality of those faculty members not known to us from their publications or prior contacts. They allowed an opportunity to inspect physical facilities and to raise questions with deans and, in some cases, university presidents. Most important, they provided a general impression of how each department runs its affairs, what quality of relations it has with its university. We deeply appreciate the hospitality that was shown on these visits, often at significant personal inconvenience to faculty members and university administrators. The consultants prepared detailed notes on the basis of the visits, and these were exchanged and studied prior to discussions that led to agreement on the substance of our conclusions.

To satisfy the terms of reference fully, we would have had to become intimately familiar with the details of each graduate programme, the subsequent performance of students trained therein, and the teaching and research activities of each faculty member. Constraints on the time of the consultants and the research resources available impelled us to limit the scope of inquiry. For instance, we were restricted in the detail and accuracy with which we could absorb and recount the programme rules and practices of the individual departments. Other limitations arose from the evidence available to us. We have been frustrated by gaps and inconsistencies in the major types of Canadian public data bearing on the demand and supply of graduate economists.

Most of the written information from individual departments was received by early summer of 1972, and most of our visits took place by the end of the summer. Drafts of the report were written and reviewed by the consultants during October through February, 1973. We have been troubled by how to handle random bits of information (e.g. on faculty appointments and resignations) reaching us recently. To avoid unfairness due to selective knowledge of recent developments, we have tried to base our appraisal on conditions prevailing or expected to prevail as of June 30, 1972.

II. An Outline of the Report

Our terms of reference, in our judgment, called for two rather different types of exercise: a macro-economic apprise in analyzing the broad aggregative picture of past and prospective supply of and demand for economists with post-graduate degrees or partial graduate-work qualifications, and a micro-economic evaluation of the programmes and plans of the individual graduate economics departments. The first is almost exclusively a statistical research exercise. The second requires both detailed familiarity with the individual departments, and the exercise of collective judgment.

We have considered it useful to begin, in Chapter III, with a discussion of three general issues underlying or raised by our assignment. The first is the background of the problem currently facing the Government and the Universities of Ontario. Here we emphasize that the current problem is a local manifestation of a problem shared with other provinces and other countries, a problem reflecting the phase of disillusionment inevitably consequent on an over-optimistic expansion of university-level education and particularly of the number of universities in response to public demand; and we call attention to three considerations relevant to solution of the problem: the special place of at least the older Ontario Universities in both the Canadian and the world academic picture, the academic desirability of maintaining some degree of competition among universities, and the contrary influence of economies of scale in univsity instruction. The second issue is the shaky foundation for the widely-held academic belief that good undergraduate teaching requires involvement in graduate teaching and the direction of research. The third is the possibility of and need for accurate "manpower forecasting" with respect to graduate training in economics; our view on this matter is that the probable errors are so great, and the costs of error relatively so small, that it would be preferable to concentrate attention on the establishment and maintenance of an internationally recognized standard of quality.

Chapter IV presents our evaluation of the individual departments. Since this chapter is already a condensation of a great deal of material, there seems little point in attempting a further condensation here. Chapter V contains our recommendations, together with brief statements of our reasons for them. The recommendations are summarized for convenience in the next section of this chapter.

III. Summary of Recommendations

(a) Departments should be asked to review and tighten up their M.A. programmes by placing more emphasis on theory and quantitative methods, streamlining and consolidating optional courses, and reducing the weight of or eliminating the M.A. thesis requirement.

(b) The Appraisals Committee should undertake an appraisal of the M. A. programmes at Lakehead and Waterloo.

(c) Departments should be asked to review and tighten up their Ph.D. programmes with a view to placing more emphasis on theory and quantitative methods, streamlining and consolidating optional courses, and substituting formal instructional courses for reading courses and seminars.

(d) The Ph.D. programmes at Ottawa and Carleton are not needed on the criterion of supplying enough trained economists to the Province.

(e) The M.A. and Ph.D. programmes in economic history at the University of Toronto should be appraised by the Appraisals Committee, in the view of one consultant.

(f) No further M.A. and Ph.D. programmes should be introduced in Departments that do not already have them.

(g) No part-time Ph.D. programmes should be introduced.

(h) There should be no experimentation for the time being with applied and interdisciplinary graduate programmes, with the exception of joint economics and political science courses in public policy.

(i) There should be no formal distribution among universities of responsibilities for particular programmes and specialties.

(j) There should be active exploration of the possibilities of collaboration and facilities-sharing between Carleton and Ottawa Universities, and among departments in the Toronto-Niagara area, through the pooling of specialist capacities for graduate teaching and research direction.

(k) Active consideration should be given by the University of Toronto to the separation of its Department of Political Economy into an economics and a political science department.

(l) The allocation of student places in graduate work in economics, in total and by departments, should not be attempted by central control of admission standards, discrimination against non-resident students however defined, or allocation of quotas or quotas-cum-field-specializations among departments. Allocation procedures should concentrate on the determination of the global number of students to be admitted and leave the allocation of students among departments so far as possible to be determined by competition for students among departments.

(m) Significant increases in M.A. enrolments are proposed only by Carleton and Ottawa, and these are reasonable. A modest increase in Ontario's total output of M.A.s seems appropriate in light of employment trends.

(n) Any significant increase in Ph.D. production would entail a decline in quality, and is not required to serve Canada's needs. We approve of some increase in Ph.D. enrollments: a doubling at McMaster and a modest increase at Toronto.

IV. Terms of Reference of Consultants

(a) Consider the materials prepared by the discipline group and the universities and obtain other data they may require to carry out the tasks detailed below. They may obtain data and views from any relevant source, such as, for example, employers of holders of graduate degrees, professional and learned societies, federal agencies. The campus of each interested university shall be visited by at least two consultants. Consultants shall arrange their schedule of visits to the universities in consultation with ACAP to ensure uniformity. Reports of appraisal consultants are privileged documents and are not to be made available to ACAP consultants. Consultants shall liaise with the discipline group near the beginning of the work, during the work as they consider necessary, and immediately before preparing their final report.

(b) Report on the adequacy of the present state of graduate work in economics in the Province in general and in each university where applicable, discussing the following.

(1) coverage of divisions and specialties, and extent of activity in each.

(2) faculty quality and quantity

(3) nature of programmes offered

(4) enrollment size and distribution amongst universities and divisions

(5) quality of student body; admission requirements

(6) relationship to related disciplines

(7) physical facilities

(8) other matters considered by the consultants to be significant.

(c) Make recommendations for the development of graduate work in economics in Ontario between 1973 and 1983, but in more detail for 1973 through 1978, and, without limiting the generality of the foregoing, dealing with the following points:

(1) Desirable programmes to be offered in the Province, considering both possible limitations or reductions of existing programmes and creation of new programmes and new kinds of programmes including the appropriateness of part-time programmes. In particular, consider any new areas of economics in which graduate work should be developed and any application-oriented and interdisciplinary work in which economics should be involved.

(2) Desirable provincial enrollments, year by year, in the various levels of graduate study, and specialties where appropriate. One should consider the need for highly trained manpower and also the general cultural and societal factors which may lead students to pursue graduate work in economics. In considering manpower needs, one should take account of the "market" available to graduates (at least all of Canada) and of other sources of supply for that market. Results of forecasts of high level manpower employment should be treated with due caution and only in a clearly balanced relationship with cultural and societal needs.

(3) Distribution amongst the universities of responsibility for programmes and for specialties where appropriate, including consideration of the need for any increase or decrease in the number of departments offering doctoral work and including the consideration of areas of collaboration and sharing of facilities at regional level and across the Province.

(4) Distribution of enrollment amongst the universities, showing desirable ranges of enrollment.

(5) Desirable extent of involvement with related disciplines.

(6) Consideration of various types of allocation systems for influencing the amount and distribution of graduate work in economics in Ontario.

In all cases, it is important that the rationale for the recommendations be clear; this is especially important for items (3) and (4). Consultants are asked to comment on advantages and disadvantages of various techniques for arranging that their recommendations become effective.

(d) It is permissible for consultants to recommend appraisal of individual programmes. This would arise if consultants were to suspect that a programme would be found to be wholly or in part below minimum acceptable standards; an appraisal by the Appraisals Committee is the means of settling the question. It is recognized that this action would be infrequent. Perhaps more likely, in planning assessments in some disciplines, consultants may find an excess of programmes in the same area of study, all of which could pass an appraisal; they would then have to make their own judgment of relative quality (a task outside the terms of reference of the Appraisals Committee), and guided by this judgment and other factors, the ACAP consultants would have to recommend where enrollment should be curtailed or eliminated.

CHAPTER II

FUTURE DEMAND AND SUPPLY OF GRADUATE ECONOMISTS

The terms of reference of the consultants call for estimates of desirable provincial enrollments, year by year, in the various levels of graduate study in economics. These should take account of the "need for highly trained manpower and also the general cultural and societal factors which may lead students to pursue graduate work in economics." The terms recognize that manpower needs in a market including "at least all of Canada" must be considered. In this chapter we assemble the available evidence on the demand and supply of graduate economists over the next decade.

Economics is a discipline not widely pursued by students for its cultural and aesthetic properties--certainly not beyond the undergraduate level of study. Therefore we rest our judgment about appropriate future levels of graduate enrollment solely on the demands for and competing supplies of trained economists rather than upon any direct evidence of students' future demand for training. Students' demand for training would be an elusive concept to quantify, even if we did not believe that it was derived largely from society's demand for trained economists.

I. Scope of the "Market"

Ontario comprises part of a labour market for economists that covers the whole of Canada, at the least, the whole of North America for many purposes, and with thinner linkages the whole of the English- and French-speaking parts of the world. Ontario jobs can be filled by students trained elsewhere, and Ontario graduates can find jobs outside of the province. The interregional and international mobility of economists, like that of most other skilled professionals, tends to rise with the extent of training. A college's B.A. students may face a ready labour market in the locality, but find their training discounted as they contact distant employers unfamiliar with their college. Ph.D.'s, on the other hand, enjoy much greater mobility. They are bought and sold largely among an international fraternity of their professional colleagues. Recommendations and appraisals largely transcend cultural and language barriers, and decay little with distance from the source. The extent to which major U.S. Ph.D.-granting institutions serve local markets is no more than one would expect from the natural inclination of students to minimize the costs of post-degree relocation. The international mobility of Ph.D.'s is thus limited much more by immigration restrictions than by the costs of information and appraisal. Prior to changes during the past decade in United States immigration laws, all of North America was effectively one market for the holder of a Ph.D. in economics.

The mobility of M.A.'s lies between that of B.A. and Ph.D. holders. Most schools obtain only incomplete information on the subsequent careers of their M.A. recipients. A large amount of impressionistic evidence suggests to us, however, that markets for terminal M.A.'s (those not proceeding immediately to the Ph.D.) are seldom local, and are certainly province-wide and probably nation-wide. Thus the Province of Ontario deals in a market for economics Ph.D.'s that is predominantly international, and one for M.A.'s that is predominantly national.

This conclusion raises a central issue for any projection or policy decision concerning future enrollments in Ontario graduate programmes. The province could decline to subsidize graduate education in economics, in the expectation that an adequate labor supply would be forthcoming from the efforts (and subsidies) of other provinces and countries. On the other hand, the public might choose to support the training of graduate economists beyond provincial needs as a gesture of assistance toward provinces and countries that are less well off. In any case, students receiving advanced training in Ontario will enjoy the option of moving elsewhere to take employment. Any reasonable value we place on human freedom would dictate an educational policy that assumes both the freedom of Ontario citizens to make use of their training elsewhere and the freedom of persons trained outside the province to seek Ontario jobs.

These thoughts suggest that the level of graduate enrollment in economics in Ontario entails a public (political) choice not narrowly limited as to socially rational alternatives. They also suggest (because the option of migration remains open) that the obvious compromise policy of supporting graduate education sufficient to fill the needs of the province enjoys no compelling logical support. Therefore we proceed as follows in deriving the demand for persons with graduate training in economics. We review evidence on both the national and provincial demands for M.A.'s and Ph.D.'s in economics over the next decade or so. Our suggestion for appropriate enrollment levels in Ontario institutions (Chapter V) will be related to the share of provincial and national demands to be supplied by Ontario--and to other variables, such as the prospective quality of the output. Appropriate supply, however, will be treated as a matter of social choice rather than objective determination.

II. Future Demands for M.A.'s in Economics

We examine the prospective demands for M.A.'s and Ph.D.'s separately. Ph.D.'s are employed largely in college and university teaching. A reasonable amount of quantitative information is at hand for estimating the demand for college teachers, because the prospective student population is known nearly two decades in advance. For M.A.'s, however, we lack most of the information needed for a systematic forecast of future demand.

Until tabulations from the most recent Canadian census have been completed, no data will be available on the stock of Canadian residents with graduate training in economics. This fact precludes use of a standard technique of manpower forecasting, which is to relate the stock of professionals employed to some measure of national economic activity, then project demand from the stock that would be needed in light of the expected future level of economic activity. Not knowing the stock of M.A.'s, we must resort to an inferior projection technique. The flow of new degree recipients is known for recent years. If this supply was approximately in balance with demand, one can relate the flow of new degree recipients to the change in national economic activity over the same period and derive a "marginal absorption coefficient" usable for forecasting how many degree holders will be demanded on the basis of expected growth in the economy.[1] The stability of that coefficient depends on a number of assumptions: the net migration of degree holders into Canada must remain stable, as must the proportion going on to advanced training or not joining the labour force. And, of course, the activities carried out by economists must retain a stable role in the economy, and other professionals (e.g. M.B.A.'s or statisticians) must neither displace economists nor be displaced by them.[2]

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[1] This forecasting methodology is suggested by the work of Robert E. Morris and Peter Ross, Supply and Requirements Projections of Social Scientists, Canada, 1976, unpublished paper, Department of Manpower and Immigration, Programme Development Service, Research Branch, 1972.

On the assumption that Canada's real Gross National Product grows at 5.5 percent annually, this technique can be used to project the annual demands for M.A.'s in economics shown in column (2) of Table 1. Table 1 also shows in column (3) an arbitraty allocation of these demands to the Province of Ontario on the assumption that Ontario's share of the employment of M.A.'s in economics is the same as her prospective share of Canada's Gross National Product.[3] This assumption probably leads to an underestimate, because of the province's role as the nation's commercial and financial centre. It is certainly an underestimate considering that Ottawa is part of the Ontario "market," and that the federal government is a principal employer of M.A.'s in economics.

Unfortunately, our projection is quite sensitive to small changes in the assumptions underlying it. Suppose the growth rate of the Canadian economy over the next decade is 4.5 percent annually, rather than 5.5 percent. The demand for M.A.'s five years hence will be reduced by (approximately) this proportion. Thus, national demand in 1976/77 will be 249 rather than 312, shown in Table 1.

We sought to obtain information directly from the federal government on current and prospective employment of economists with both M.A. and Ph.D. degrees. In the nature of things, a parliamentary government can project its plans but a short time into the future. Hence, no meaningful forecasts can be made of government employment five or ten years hence. However, figures are available on the stock of economists now in federal employ. The ES group, which includes economists, statisticians, and a few sociologists, numbers about 1,600 currently. It appears to cover most newly trained economists, although not all economists in federal employment. In grades 1 through 5 are found 455 holders of the M.A., 110 Ph.D.s, and four with post-doctoral training. The number of economists added to the ES group, in three recent

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[2] The marginal absorption coefficient also presents a more technical problem. Suppose that a stable relation indeed exists between the stock of economists and the level of GNP. A stable relation could also exist between the flow of economists and changes in the level of GNP (i.e. the marginal absorption coefficient) only if the stock relation is such that a given proportional rise in GNP calls forth the same proportional increase in the desired stock of economists.

[3] We used projections of provincial and national GNP appearing in Commission on Post-Secondary Education in Ontario, Draft Report (Toronto, 1972), Table D-10.

Table 1.

Projected demand for M.A.'s in Economics, Canada and Province of Ontario, to 1982/83

Year	Canada[a]	Ontario[b]
(1)	(2)	(3)
1966/67	146	n.a.
1971/72	238	97
1972/73	252	103
1973/74	266	108
1974/75	281	115
1975/76	296	121
1976/77	312	127
1977/78	329	135
1982/83	431	178

[a] Based on method of projection suggested by Robert E. Morris and Peter Ross, Supply and Requirements Projections of Social Scientists, Canada, 1976, mimeo. (Canada, Department of Manpower and Immigration, Programme Development Service, Research Branch, 1972).

[b] Minimum estimate based on assumption that Ontario's share of M.A. employment is the same as her share of Gross National Product, as projected by Department of Treasury and Economics, Ontario Economic Review, 9 (September/October, 1971); cited in Commission on Post-Secondary Education in Ontario, Draft Report (Toronto, 1972), Table D-10.

graduation-years, was as follows:

	B.A. (Hon.)	License Diploma	M.A.	Ph.D.
1969	54	2	34	3
1970	39	4	39	1
1971	34	1	35	2

Assuming that the majority of M.A. holders in the ES group are economists, the number of M.A.'s would appear to have been rising about 10 percent annually. Indeed, economists with post-B.A. training have come into increasingly broad use in the federal government (where bilingual status is increasingly important). About one third are with Statistics Canada, but a number of agencies have come to employ economists in both research and operating capacities. This trend cannot be extrapolated with confidence for more than a few years, but a rapid increase in the employment of economics M.A.'s in particular seems likely. Provincial governments may also expand their intake in the coming decade, but that is highly conjectural. This general information on the prospective growth of the stock of economists in government employ provides useful background but cannot be used to adjust the projected demand for economics M.A.'s (Table 1), because of the absence of any overall stock figure to which that forecast can be attached.

III. Future Demand for Ph.D.'s in Economics

The demand for Ph.D.'s in economics can be predicted with slightly greater confidence than that for M.A.'s because the bulk of them are employed in college teaching, and the presence now in primary schools of the college population a decade hence offers some indication of the number of college and university instructors who will be needed. Elaborate projections of Canadian post-secondary enrollment to 1980-81 have been prepared by Zsigmond and Wenaas,[4] and we base our figures on these. The Zsigmond-Wenaas projections for Ontario can also be compared to those published by the Commission on Post-Secondary Education in Ontario.[5]

The proportion of young Canadians attending university and other post-secondary institutions has increased rapidly over the past two decades. In 1951-52 only 6.0 percent of the population cohort aged 18-24 attended post-secondary institutions. By 1967-68 the figure had risen to 16.1 percent, and Zsigmond and Wenaas project a doubling to 33.2 percent in 1980-81. To place this rapid rise in perspective, we notice that Canada's enrollment ratio remains significantly below that in the United States, although some catching up is expected. Canada's ratio for universities (excluding other post-secondary) in 1967-68 was 12 percent, compared to 21 for the United

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[4] Z.E. Zsigmond and C.J. Wenaas, Enrolment in Educational Institutions by Province, 1951-52 to 1980-81, Economics Council of Canada, Staff Study No. 25 (Ottawa: Information Canada, 1970)

[5] *Draft Report*, *op. cit.*, Table D-11.

States; projected figures for 1975-76 are 18 and 24 percent respectively.[6]

The long-run rapid rise in the enrollment ratio has been arrested in the last two years, casting doubt on future trends. The Zsigmond-Wenaas figures, which were projected forward from a 1967-68 information base, produced substantial overestimates for 1969-70 and 1970-71. As a result, we have accepted the suggestion that future growth of enrollment should be assumed only three-fourths of that projected by Zsigmond and Wenaas. The Commission on Post-Secondary Education in Ontario produced substantially lower projections than Zsigmond and Wenaas, and in fairly close agreement with the one-fourth downward adjustment.

With a projection of the student population in hand, one can calculate the total faculty required in any given future year by applying a student faculty ratio. Ideally this ratio would be specific to the field of economics, and a forecast would be made of the future portion of their instruction that students will seek in economics. However, discipline-specific student-faculty ratios are not available, and it is necessary to employ other tactics.

The overall student-faculty ratio increased irregularly from 1953 to 1966 at an average annual rate of 2.11 percent, and we extrapolate a continued increase over the decade of the 1970's. This continued increase seems to us reasonable, but application of an overall figure to individual disciplines is a highly undesirable procedure. Casual evidence suggests strongly that these ratios vary widely among disciplines, with the social sciences (including economics) toward the high end. Furthermore, both overall and discipline-specific ratios would have been higher than they were in recent years, except for the rapid shift into graduate programmes.[7] The data supplied to us by Ontario universities allow an estimate of the marginal student-faculty ratio implied by the staffing patterns that prevailed in the province in 1971-72. That estimate lies in the range of 23 to 26, assuming that the mixture of undergraduate and graduate students remains what it was in 1971-72.[8]

This marginal ratio is significantly above the average, but does not appear unreasonable to us for the coming decade. First, the installation of new graduate programmes will surely slow down, and some now in operation can absorb more students without a proportionate expansion of staff. Second,

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[6] Zsigmond and Wenaas, op. cit., Tables 3-7 and A-3.

[7] See Max von Zur-Muehlen, "The Ph.D. Dilemma in Canada: A Case Study," Canadian Higher Education in the Seventies, ed. Sylvia Ostry (Ottawa: Information Canada, 1972), pp. 92-93.

[8] This estimate is a by-product of our study of teaching loads, reported in Chapter 4. Briefly, we regressed full-time equivalent faculty members in each economics department on the department's population of graduate students and the number of students enrolled in its undergraduate courses (i.e. number of full courses multiplied by average enrollment per course). A cross-section regression ~~across~~ the eleven Ontario departments offering graduate instruction implied a (full-time equivalent) undergraduate ratio of 25 to 28, and a graduate ratio of 5 to 7. Weighting these by the 1971-72 proportion of undergraduate and graduate for the province as a whole, we secure the range of 23 to 26 reported in the text.

Table 2.

Alternative Projections of Enrollment in Universities and Other Post-Secondary Educational Institutions, Ontario, to 1981/82

Year	Wright Commission[a]			Economic Council[b]	
	Universities	Community colleges[c]	Enrollment Ratio[e]	Universities	Other[d]
(1)	(2)	(3)	(4)	(5)	(6)
1951/52	23,061	151	4.8%	21,176	8,039
1956/57	22,869	1,020	4.7	23,871	11,571
1961/62	31,585	2,519	5.8	35,871	17,079
1966/67	62,851	7,255	8.7	68,589	25,507
1971/72[f]	123,030	37,745	13.7	130,400	65,600
1976/77	193,790	65,165	18.3	210,900	97,500
1981/82	237,050	80,809	19.9	283,900[g]	126,300[g]

[a] Commission on Post-Secondary Education in Ontario, Draft Report (Toronto, 1972), Tables D-4, D-11.

[b] Z.E. Zsigmond and C.J. Wenaas, Enrollment in Educational Institutions by Province, 1951-52 to 1980-81, Economic Council of Canada, Staff Study No. 25 (Ottawa: Information Canada, 1970), Table A-42.

[c] Colleges of applied arts and technology and/or similar antecedent institutions.

[d] Enrollment in teachers colleges has been removed from the "universities" column and transferred to "other" on the assumption of no significant growth after 1967/68.

[e] Column (2) divided by estimated population aged 18-24 (Table D-4).

[f] Projected rather than actual values.

[g] Figure for 1980/81 projected on the assumption of continued downward trend in growth rate.

productivity (as conventionally measured) in post-secondary education rises slowly if at all, so that the cost of this service tends to rise relative to others provided in the economy; the only way to curb this rapid rise in unit costs of education is to extract nominal productivity gains by the *force majeure* of raising the student-faculty ratio. Finally, population trends indicate that post-secondary enrollment will peak in the early 1980's and then actually decline. It would be reasonable to stretch the student-faculty ratio as the peak approaches, rather than building in what would essentially become excess capacity a few years later.

Application of the projected student-faculty ratio provides an estimate of total Ph.D.'s required in future years. We have employed the assumption that Ph.D.'s are employed only in university teaching, not in community colleges or other such institutions of post-secondary education. This assumption will not necessarily hold true. If Ph.D. recruitment in these institutions does become significant, however, it will be at the expense of employment of M.A.'s in the same fields. Hence any errors will be offsetting within our total forecast of manpower needs.[9]

To apply our marginal student-faculty ratio to the projected increase in enrollment, we need an assumption about the proportion of students registering for economics courses or graduate degree programmes. Although no systematic evidence is at hand, our impression is that economics courses increased their share of college enrollment during the 1960's but stabilized or dropped a bit at the end of the decade. We see no basis for predicting any change either way in this share, and so assume that the 1971-72 share will hold constant. This and our other assumptions yield the predictions shown in column (2) of Table 3 for the Ph.D.'s in economics needed to service the coming expansion in student enrollment in Canada. (In each column, Estimate I assumes a student-faculty ratio of 23, Estimate II a ratio of 26.) Column (3) adds an estimate of two other components of demand. Some teachers retire, die, or leave university employment each year; we have seen estimates of this attrition rate ranging from 3.2 to 3.5 percent. Only 1 percent of this is due to deaths and retirements, however; most of the balance represents economists moving into non-university employment. Since we include an explicit estimate of non-university demand for economists (little but a guess), we would double-count if we include as well the demand due to non-natural attrition from university faculties. Hence the attrition rate built into column (3) is only 1 percent, to allow for deaths and retirements.[10] Total annual demand for Ph.D.'s in economics appears in column (4).

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[9] Research staff of the Council of Ontario Universities have pointed out that the choice of a base year affects the forecast a good deal. Economics faculty were added by 1971-72 at a rate significantly higher than our long-term forecast. One could argue either that these "extra" staff will reduce the demand in future years, or that they foretell the maintenance of a lower student-faculty ratio in future years than the one projected by the Department of Manpower and Immigration.

[10] This figure is used by von Zur-Muehlen, *op. cit.*, p. 80.

Table 3.

Projected Demand for Ph.D.'s in Economics, Canada and Ontario, to 1982-83[a]

Year	Canada						Ontario					
	Enrollment increase		Replacement, non-university		Total		Enrollment increase		Replacement, non-university		Total	
(1)	(2)		(3)		(4)		(5)		(6)		(7)	
	Estimate		Estimate		Estimate		Estimate		Estimate		Estimate	
	I	II	I	II	I	II	I	II	I	II	I	II
1972/73	76	67	18	18	94	85	33	29	10	10	43	39
1973/74	91	80	19	19	110	99	42	37	10	10	52	47
1974/75	85	76	20	19	105	95	38	33	10	10	48	43
1975/76	82	72	22	21	104	93	34	30	12	12	46	42
1976/77	82	72	23	22	105	94	38	34	12	12	50	46
1977/78	84	75	23	23	107	98	30	27	12	12	42	39
1978/79	58	51	25	24	83	75	41	36	14	14	54	50
1979/80	58	51	26	25	84	76	32	28	14	14	46	42
1980/81	52	46	26	25	78	71	24	21	15	14	39	35
1981/82	45	39	28	27	73	66	21	19	15	14	36	33
1982/83	39	34	28	27	67	61	19	17	16	16	35	33

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[a] No attempt has been made to smooth our projected series. We do not consider small year-to-year fluctuations to be significant.

In constructing this estimate we have assumed implicitly that all new college and university teachers will hold the Ph.D. degree. This of course is untrue of the present stock of teachers, and unlikely to be true of the future inflow. About 86 percent of full-time economics staff in Ontario universities now hold Ph.D.'s.[11] We can compare this figure to those for United States post-secondary institutions; in 1963/64 73.2 percent of university economics teachers held the Ph.D., 53.1 percent of four-year college teachers, and 9.5 percent of two-year college teachers.[12] We shall nonetheless carry out our projections without adjusting for the non-Ph.D. portion of the corps of future college teachers. The great bulk of non-Ph.D. holders in this labour force will surely be All-But-Dissertation (ABD) fugitives--temporary or permanent--from the Ph.D. course of study. Hence a more accurate estimate of the appropriate throughput of Ph.D. programmes can be derived by amalgamating Ph.D.'s and ABD's rather than by refining the demand calculation to pure Ph.D.'S. Thus Table 3 and subsequent references to the demand for Ph.D.'s should be read as "Ph.D.'s plus ABD's."

The balance of Table 3 constructs a similar demand estimate for the Province of Ontario. Our series for prospective enrollment in Ontario universities--column (5)--is constructed in the same fashion as the Manpower and Immigration series for Canada. In removing enrollment in teachers colleges from the underlying series provided by Zsigmond and Wenaas,[13] we have assumed that it remains unchanged from its level in the late 1960's. This seems consistent with the general tone of discussion in the report of the Commission on Post-Secondary Education in Ontario and other sources. We assume that the same student-faculty ratios hold for Ontario as for the rest of Canada, and that economics enrollments retain their 1971-72 shares of students' curricular choices. We do assume that about two-thirds of economists in non-university positions will be found in the federal government or elsewhere in the Province of Ontario.

Year-to-year wobbles in the figures result from small discontinuities in the assumptions and should of course not be given weight. What the data do imply is a more-or-less constant annual demand for Ph.D.'s to serve the growth of student enrollment to the late 1970's. In the 1980's the projected enrollment increases drop off sharply, and with them this source of demand. Replacement and non-university demand continue growing but not enough to keep the total demand for Ph.D.'s from declining.[14]

It is important, finally, to check the sensitivity of Table 3's projections to shifts in the assumptions underlying it. Suppose that the correct assumption about marginal student-faculty ratios is not ours (23 to

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[11] Research staff at the Council of Ontario Universities tabulate 283 of 329 as holding the doctorate.

[12] Allan M. Cartter, "Whither the Market for Academic Economists?" American Economic Review, 61 (May, 1971), p. 305.

[13] Op. cit., Table A-42.

[14] The pattern contrasts to that projected for the United States because the upswing in the portion of young people attending post-secondary institutions seems to be lagged behind that in the U.S. See Allan M. Cartter, "Whither the Market for Academic Economists?" American Economic Review, 61 (May, 1971), p. 305-310.

26) but that implicit in the Department of Manpower and Immigration projection (which rises from 18 in 1972 to around 21 in 1977). The demand for Ph.D.'s to meet the enrollment increase in 1977/78 would be 94, rather than the 84 or 75 shown in Table 3 (column 2). Suppose that the proportion of the college-age group actually enrolled in 1977/78 is not 15.7 percent (as our figures imply) but 14.7 percent. The cumulative demand for economists to service the enrollment increase from 1969/70 to 1977/78 would decline by 11 to 15 percent. The sensitivities of our estimates to errors in the assumptions are thus quite high, and we would not be surprised if the estimates in columns (4) were in error by one-fourth for the latter 1970's. On the other hand, the nature of the market for graduate economists is such that errors in provincial projections and outputs are not likely to result in serious misallocations of resources.

IV. Future Supply of M.A.'s and Ph.D.'s in Economics

This report deals with information needed for determining the appropriate future supply of economics M.A. and Ph.D. holders from Ontario universities. That supply, then, is to be determined rather than forecast. Its optimal level will presumably depend, however, on the supplies forthcoming from the rest of Canada and from the United States. We first explore the information available on these sources of supply.

Projections from M.A. and Ph.D. degrees conferred in economics and other subjects have been derived using methods suggested by the Department of Manpower and Immigration. They were prepared in two steps. First, projections of graduate enrollment (all fields) were prepared by adjusting the Zsigmond-Wenaas forecasts downward in the fashion described above. Second, historical data on degrees conferred were regressed on appropriate weighted-average series of graduate enrollment to produce a forecast of the number of degrees yielded by expected future total graduate enrollments. The accuracy of the results will depend on the enrollment forecast, of course, and also on the implicit underlying assumption of the continuation of any trends embodied in the base-period data in the share of economics in all graduate degrees and the time required to complete a given degree.

This procedure sounds reasonable, but its results are not entirely credible. The expected growth rate of graduate enrollment (11.2 percent annually from 1967/68 to 1977/78) is substantially higher than the growth rate of undergraduate enrollment (6.9 percent annually from 1967/68 to 1975/76). The economics share of both B.A. and M.A. degrees will be rising because both are projected to grow significantly faster than their respective enrollment bases (respectively, 11.9 and 15.0 percent annually). Indeed, by 1974/75 the number of M.A.'s (475) is expected to exceed the number of B.A. degrees in economics (450)--an unlikely result given the usual requirement or near-requirement of an economics B.A. as a prerequisite for graduate study. The same methodology forecasts an increase in the Canadian output of economics Ph.D.'s from 13 in 1967/68 to 36 in 1975/76, or 13.6 percent annually. If Ontario produces in 1975/76 a share of degree holders equal to its share of projected graduate enrollment (39 percent), its output would be 206 M.A.'s and 14 Ph.D.'s in economics with 317 and 22 respectively coming from universities elsewhere in Canada.

What will be Ontario's share, if present plans are carried out? Unfortunately, an answer to that question would depend on information about planned enrollment levels in all Canadian graduate programmes, not to mention more certainty about prospects for Ontario than now exists. An analysis of current and recent past enrollments holds some interest, although the recent start-up of many Canadian graduate programmes means that their output of degrees has come nowhere near a steady-state level. Ontario universities accounted for 39.3 and 44.7 percent of enrollment in Ph.D. programmes in economics in 1969/70 and 1970/71, respectively (counting both full-time and part-time enrollment). The province's share of M.A. enrollment was substantially lower--32.5 and 30.5 percent in the two years.[15] Thus Ontario's recent share of Ph.D. enrollments is not far off that allotted in the forecasts. Her share of M.A. enrollment, however, is significantly lower because of the large M.A. enrollments reported in the Western provinces.

Other information on Ontario's prospective output of economics graduates comes from submissions by the universities to ACAP in connection with this appraisal. Data were requested both on recent (1971/72 and previous years) enrollment and on enrollments projected to 1975/76. These data were presented on rather diverse bases and are difficult to reconcile with one another. Hence, high confidence cannot be placed on any totals we have extracted from these submissions. On the assumption that, in the long run, M.A.'s conferred should run a bit higher than one-half of students enrolled for the degree the projected Ontario output of 206 in 1975/76 should be about correct. There thus seems no inconsistency between the plans for M.A. instruction submitted by the universities and the enrollment projections based on college-age population and enrollment ratios. In the case of Ph.D.'s in economics, however, the projected Ontario output (including all proposed new programmes and expansions of present ones) would greatly exceed the supply projections quoted above. Few Ph.D. degrees in economics are now being conferred in the province because all programmes are either new or greatly expanded. Nonetheless, total enrollment in 1971/72 should, in fully matured programmes, produce 35 to 40 Ph.D.'s annually. Total enrollment proposed for 1975/76 (including all new or expanded programmes) should yield, on the same steady-state basis 55 to 60 Ph.D.'s, or more than the supply projected above for all of Canada! We return to this discrepancy below.

A vitally important fact concerning the supply of trained economists is that many immigrant economists are attracted to the Canadian labour force, and an even larger number of Canadian students have chosen to take their training in other countries.[16] Economics happens to be the one discipline for which figures on the flow of immigrant professionals are available. In 1967/68 and 1968/69 immigrant graduate economists (a classification that includes B.A.'s) were respectively 65 and 69 percent of domestic graduates absorbed into the labour force. No figures are available on the (probably larger) number of Canadians who returned after taking their training in other countries. The current stock of teachers of economics, however, is heavily weighted toward the foreign-born and foreign-trained. Of the 283 economists with Ph.D.'s employed by Ontario universities in 1971/72, 111 (39 percent) were Canadians (i.e. held Canadian first degrees) who had taken their Ph.D. degrees abroad, 130 (46 percent) were immigrants with final training abroad, and only 42 (15 percent) had received their final graduate training in Canada (whether immigrants or native-born).

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[15] Calculated from Canadian Association of Graduate Schools, 1971 Statistical Report (Winnipeg, 1971), Tables 16.2, 17.2, 18.2, 19.2.

[16] Only 21 percent of Canadians now teaching in Ontario universities took their Ph.D.'s in Canada.

The historical importance of foreign-trained economists does not necessarily complicate the methods used above in forecasting the demand for M.A.'s, but it does affect the Ph.D. calculations. The "marginal absorption coefficient" used to estimate the demand for M.A.'s related the flow of Canadian M.A.'s to the increase in Canada's GNP. To the extent that foreign-trained M.A.'s continue to provide the same portion of the net expansion of economics M.A.'s employed in Canada, the coefficient could accurately measure the future demand for Canadian-trained M.A.'s. In the case of Ph.D.'s, however, total demand saw estimated without any implicit netting out of foreign supply. Hence, our appraisal of the prospective demand-supply balance must take account of the prospective supply of immigrant and foreign-trained native economists. To that balance we now turn.

V. Supply-Demand Balance and Appropriate Levels of Enrollment in Ontario Universities

In Table 4 we bring together information on the prospective supply and demand for economics graduates in Canada as a whole and in Ontario. Because the figures represent but the roughest of approximations, they must be interpreted with some care. Over the next few years the supply of M.A.'s appears to exceed the expected demand by a factor that rises from about one-half to about two-thirds. These figures do not suggest a correspondingly serious oversupply for Ontario, however, for two reasons. First, the Ontario demand for M.A.'s (taken from Table 1) is surely an underestimate (at least if the national projection is correct). Second, the market for economics B.A.'s in the mid-1970's appears rather more nearly in balance than the market for M.A.'s, and there are surely ample opportunities for employers to substitute M.A.'s for B.A.'s and upgrade the analytical capabilities at their command. Thus we do not anticipate any serious excess supply of economics M.A.'s in the next few years.[17] On the other hand, no case can be made from these data for expanding the total output of M.A.'s at a rate any faster than that built into the aggregate supply projection. We consider below the relation between this Ontario supply and the collective plans of Ontario universities.

At the Ph.D. level, the demand-supply balance is a more complicated matter. First, the supply estimates quoted above represent actual Ph.D.'s, and must be grossed up to cover ABD's, because the demand estimate incorporate both. Because of the newness of the programmes, current ratios of enrollment to degrees conferred are only suggestive; we guess that one-fourth of Ph.D. students passing onto the job market will, on a long-

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[17] This judgment is supported by our conversations with Ontario departments concerning their experience in the placement of M.A.'s. Federal and provincial governments and community colleges have been leading employers, but an active if unpredictable market has also been found among industrial and financial companies, research organizations, and the like.

Table 4.

Balance of Demand and Supply of M.A.'s and Ph.D.'s in Economics[a] Canada and Province of Ontario to 1975/76

	1972/73	1973/74	1974/75	1975/76
Canada				
Demand for Ph.D.'s[b]	90	104	100	98
Supply of Ph.D.'s[c]	30	33	37	41
Demand for M.A.'s[c]	252	266	281	296
Supply of M.A.'s[c]	382	428	475	523
Ontario				
Demand for Ph.D.'s[b]	41	50	46	44
Supply of Ph.D.'s[c]	12	13	14	16
Supply of Ph.D.'s[d]	--	--	--	66
Demand for M.A.'s	103	108	115	121
Supply of M.A.'s[c]	149	167	185	206

[a] All references to Ph.D.'s include both Ph.D. degrees awarded and ABD's passing onto the job market. It is assumed that "permanent" ABD's comprise one-fourth of the output of Ph.D. programs.

[b] Mean of the high and low estimates reported in Table 3.

[c] Estimated on the basis of the approach employed by Morris and Ross, in their study for the Department of Manpower and Immigration; see text.

[d] Estimated from program outputs projected by Ontario universities in submissions to ACAP.

run basis, be in protracted ABD status.[18] Supply estimates in Table 4 suggest that the Canadian supply will remain substantially below the demand. Programmes proposed by Ontario universities would, however, glut the Ontario market and fill more than half of the (generously estimated) national demand--even at its late 1970's peak level. A second adjustment of the supply estimate is required for foreign students in Canadian Ph.D. programmes who decide to return to their native countries, and thus do not supply their services in the Canadian market. We assume this proportion to be 15 percent.[19]

As Table 4 shows, Canadian Ph.D.'s will be sufficient to fill 42 percent of Canadian demand by 1975-76, even on the basis of a conservative supply projection.[20] In 1971-72, only 15 percent of Ontario university economists were Canadian-trained. If Ontario universities turn out the number of Ph.D.'s that they propose, through the creation of new degree programmes and expansion of others, Canadian Ph.D. output in that year would just about fill Canadian demand even if no programme expansions take place elsewhere in Canada. Thus these proposed expansions implicitly require, for their justification, the exclusion of foreign-trained immigrant economists and the diversion of all Canadians seeking economics Ph.D.'s to Canadian degree programmes.

The wisdom of this projected displacement or elimination of imports of trained economists is considered in our concluding chapter. In closing, we note another feature of the prospective market for economists. Projections for the United States imply no evaporation of the net supply available for employment abroad (including Canada). On the contrary, that "excess supply" is likely to increase massively. The growth of Ph.D. output in the United States was predicted with extreme accuracy for the 1960's on the simple assumption of a rate of increase fluctuating cyclically between 8 and 10 percent per annum. Because of differences between the United States and Canada in population pyramids and expected growth in enrollment ratios, the U.S. demand for new Ph.D.'s could reasonably have been expected to peak at the end of the 1960's and fall to a lower average level through the 1970's. Thus the excess supply that became evident about two years ago in most academic disciplines was a result of longer-run forces and will, unless supply is reduced below forecast levels, grow worse in the next few years. Economics has been accounting for a declining share of doctorates and, at the same time, enjoys an apparent rising demand from non-university employers. Thus, the prospective excess supply of U.S.-trained economists is proportionally smaller than for other academic disciplines, but excess supply is nonetheless in the offing.[21] A feasible posture for Canada would thus be to refrain from expending resources to increase the output of Canadian-trained economists on the reasonable prospect that needs can be filled from foreign-trained economists, both Canadians and immigrants.

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[18] We have based our projections of Ph.D. enrollments on data covering both full-time and part-time students--all those currently in active pursuit of the doctorate. We estimate that one-fourth of this number will be net entrants into the labor market each year; because the programmes are geared to an expected elapsed time of three years between the M.A. and the completion of the Ph.D., this allows a fairly large attrition factor. The allowance of one-fourth for permanent ABD status, in the context of growing programmes implies that more than 75 percent of those entering the labor market each year are ultimately expected to complete their doctorates. These completion rates are no more than guesses based on the experience of U.S. graduate programmes; Canadian programmes are too new to supply reliable information.

[19] In 1971-72 15 percent of economics Ph.D. candidates at Ontario universities were on student or other visas. Some of these might stay in Canada. On the other hand, another 23 percent of Ph.D. candidates were landed immigrants, and some of these probably will not stay in Canada.

[20] We count this conservative because it extrapolates the low yield of Ph.D programme enrollments in their early years. If these yields do not increase, it speaks poorly of the quality of either the students or the instruction in these programmes.

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[21] Information from Cartter, op. cit., and Lindsay R. Harmon, "The Supply of Economists in the 1970's", American Economic Review, 61 (May, 1971), pp. 311-315.

CHAPTER III

HISTORICAL AND NORMATIVE ISSUES UNDERLYING THE DEVELOPMENT OF GRADUATE EDUCATION IN ECONOMICS IN ONTARIO

I. Introduction

The situation in Ontario that led to our appointment has to be understood and evaluated in a far more general framework of reference than the Ontario situation by itself. A similar situation, produced by similar forces, is characteristic of the United Kingdom and also of the United States. Indeed, it would not be stretching the truth too far to say that Ontario's problems with graduate education are the result of the Province--its government and its universities collectively--having conformed too closely to a historical phase of public opinion in the English-speaking world generally.

Specifically, about a decade and a half ago the idea became popular that the key to economic growth lay in the expansion of opportunities for university education for the mass of the population. And public policy proceeded to cater to this demand. For various reasons, including the academic conviction that a university should be relatively small and the belief of the public that a university was a valuable local asset, the chosen path of expansion was the establishment at new sites of new universities of traditional size rather than the expansion of old universities. This choice satisfied political interests in expanding local educational resources and served the interests of academics looking for better career opportunities and for freedom from the dominance over "respectable" academic work of the long-established universities.

But the choice has created a related series of new problems, bothersome to politicians, public, and academics alike. For the public, the new universities have yet to establish themselves as being as good as the old; yet, because they are expensive, they raise the question of whether the expense is worthwhile. For the academics, concerned with their professional careers, attachment to a new university is only worthwhile if that university offers a combination of salary and the opportunity to make a professional mark that is more attractive over-all than that offered by the older and longer-established universities. This means a better combination of academic rank, salary, and access to advanced students (and potential disciples)--not always forthcoming. Politicians discover that it is relatively easy and cheap to establish new universities, but that it takes a long time to make them good enough both to satisfy the public and sustain a happy and qualified faculty. The expense weighs on the next generation of politicians, and public becomes disillusioned with the restults. Perhaps the investment will ultimately pay off--the history of successful universities has followed precisely that trajectory. But many attempts fail, in spite of adequate finance and a receptive local environment.

In any case, Ontario is clearly in the stage of public disillusionment with the prospective benefits of more university-level education, academic disillusionment with the career benefits of more universities, and political concern about the cost-benefit ratio for expenditure on university education.

Our concern is with graduate (i.e. post-B.A.) programmes in economics, but many of their particular problems are those of graduate training in general, within the Ontario university system. We are particularly conscious of three considerations about graduate training in Ontario.

First, the Ontario university system occupies a special position, in two senses. Ontario is now the major training centre for students from the rest of Canada, and students who will serve Canada as a nation. There used to be no "rest of Canada" or a "Canadian nation" in any important way; Ontario and Quebec each had its own educational system, and "Canada" was a compromise between them. But now the Ontario higher education system, particularly at the graduate level, provides a channel for students from the rest of Canada to make their way upwards into Canadian society; and there is a "Canada" which transcends relations between Ontario and Quebec. Hence it would be a derogation of responsibility to Canada for the Province of Ontario to make decisions about policy regarding graduate work in Ontario solely on the basis of costs and benefits to Ontario as a self-contained territory generating all its students and employing them all in its own province. Ontario universities occupy a special position, secondly, in that Ontario is one of the richest parts of the world. It has some obligation to share its riches with other less fortunate parts of the world by providing their children with the higher standards of education that its wealth makes possible for its own fortunate citizens' children.

The second consideration is that there is a virtue in permitting some degree of competition between academic institutions (as between private firms in any industry). Centralized administration, however efficient it may be in the short run, tends to kill off progress and useful change in the longer run. Therefore we are not prepared to consider, let alone agree with, the Spinks Report's recommendation of a single federated University of Ontario. For a small province, anxious to achieve high quality of training for its students and a correspondingly excellent staff, dispersion of enrollment of students and employment of staff among many locally competitive institutions would be a bad procedure. But, given the position of Ontario universities in the national and world academic structure and the traditional diversity among them, we feel that they should not be subordinated to a central directive body. The evidence of what has happened to the academic repute and attractiveness of certain U.S. state university systems forced by political pressure to become more centralized and standardized is cautionary. On the other hand, we will contend that various changes could and should be introduced to reduce the wastes of academic competiton and improve the overall performance of the Province's university system at the graduate level.

The third consideration, which runs counter to the other two and is our main concern, is that rapid expansion of any university system produces pressures for the expansion of graduate training. They are not necessarily in the social interest, and are probably against it. Rapid expansion means the necessity of hiring many young faculty members fresh out of graduate school and some senior people ambitious to escape from schools in which they judge their influence and opportunities incommensurate with their scholarly potentialities. Although they are hired for undergraduate teaching, both groups are most likely to crave an opportunity for graduate teaching that the profession as a whole does not deem that they deserve--either as yet, or ever. In the bargain they strike with the new universities, they are promised the opportunity to buy graduate students to fulfill their desires for professional influence. Given the quasi-monopolistic powers of the big established graduate schools, some of these people are almost certainly correct in their assessment of their own potential. But a lot of them are not, and gambling on the accuracy of their and their new university's forecasts of their academic promise can be a very expensive as well as a losing proposition.

Our problem is a very difficult one. On the one hand, we have to recognize that the present public aversion to the provision of graduate education may be extremely short-sighted. On the other hand, we have to recognize that the belief of academics in the importance of graduate education as an essential part of a university may well be misplaced, and a consequence of the effects of rapid university expansion on the dominant opinion in universities of what the main function of a university should be, either to justify the existence of the university, or (probably more relevantly) to satisfy the aspirations of the existing staff.

In the next section, we discuss in rather more academic terms the arguments that faculty members advanced for the necessity of graduate instruction as an integral part of university instruction at the undergraduate level. Before doing so, however, and in some extension of our terms of reference, we should like to point out that the natural professional preference to teach graduate students has been strongly reinforced by the Basic Income Unit system on which the Ontario system of financing university education is based. Any system that pays a price differential for a higher over a lower level of instruction greater than the difference in their relative costs will encourage substitution of the higher for the lower level of instruction. In a generously financed university-level education system, this tendency will be restrained by academic insistence that the quality of the higher level (i.e. post-B.A.) education must be high enough to merit the cost. But if there is a shortage of finance for the lower-level instruction or other university programmes and a possibility of obtaining more money at less than the marginal resource cost by transferring instructors to higher levels of instruction, the result will be a nominal shift towards higher level teaching without the reality of the increase in real cost involved. In short, if there is a lower price for ordinary B.A. teaching and a higher price for graduate teaching, university teachers and administrators will both see themselves and their institution as benefitting from a shift toward graduate training, whether or not it is in the interests of their students and the government that supports them. In particular, a budgetary crunch due to contraction of the total number of students relative to forecast levels would produce a shift of emphasis in university policy towards graduate programmes, regardless of the social desirability of such a shift, when the financial incentives are so structured. This seems to us to be a crucial factor in the problem that led to our appointment; but, fortunately for the scope of our inquiry, the question lies outside our terms of reference.

Those terms require us to evaluate the quality of the graduate programmes of individual Ontario universities and the Ontario university system as a whole, in the field of economics. Preliminary to this task, we consider it important to state our opinions on two basic issues. The first is the merit of the view, widely held by academics, that good undergraduate education requires the involvement of the university in graduate training programmes. This issue far transcends the specific problems of the university system of Ontario but is vital to the policy questions before us. Ontario universities have long held an enviable international reputation for the high quality of their undergraduate instruction in economics--a reputation that does not prevail at the level of graduate instruction. Fears were expressed to us by some distinguished Ontario university economists that the recent shift of emphasis to graduate work might undermine the quality of their university's undergraduate teaching in economics.

The second issue is the extent to which it is both possible and important to arrive at a reasonably firm estimate of the number of graduate-study degree-holders that the Ontario university system should produce in the field of economics. We explore this question precisely because we believe that economics as a field of study leading eventually to a career has special features of adaptability and flexibility not necessarily--and in some cases clearly not-- characteristic of other fields of graduate study.

II. The Uneasy Case for Universal Graduate Programmes in Economics

There is a widely-held, indeed almost universal, view that good undergraduate teaching in a university requires the presence of some sort of graduate programme leading up to the Ph.D. This view is written into the British definition of a university, and has been the assumption of both the administrations and the academic staffs of most (though not all) of the new universities started up in the past decade or so in Ontario (and for that matter in the rest of Canada). It has, however, come into increasing conflict in recent years with public concern about the high costs of university education, and especially of graduate training and graduate student support. The view constitutes a serious barrier to consideration of various obvious possibilities of reducing the cost and increasing the efficiency of university education, especially at the graduate but also at the undergraduate level. It, therefore, seems worthwhile to examine the strength of the case for believing that superior undergraduate teaching requires that primarily undergraduate teachers also run a graduate programme.

The general principle on which this view would seem to be based is the undeniable one that research feeds back into teaching, and teaching feeds back into research. However, there is nothing in this principle to provide *a priori* support for the conclusion that the teaching and the research need to be done by the same location. On the one hand, teachers, no matter how active they are in research, derive most additions to their knowledge from reading rather than doing research; and there is no obvious reason why the research they do is most efficiently carried on in the same institution or geographical location as their teaching. (In fact, for many literary scholars of the older style, the great libraries of the world and not the home university have been the locus of research.) On the other hand, researchers do not necessarily have themselves to teach undergraduates in order to test out research results and derive new ideas for research. They can, or could, apprehend new problems at second-hand via correspondence with teachers or the employment of their students as research assistants, and this method might be more efficient than the teaching of a small random sample of the undergraduate population. Especially given the high level of sophistication of research techniques in economics at present, the testing of new results is probably more effectively done by presentation to colleagues in seminars and at conferences, or in graduate lectures and seminars than in lectures and seminars at the undergraduate level.

The more important point, however, is that there is nothing in the view that research and teaching interact productively to suggest that the teaching of graduate students is essential to the process. In particular, there is no reason to think that teaching in an organized graduate programme and directing graduate student research projects feed back productivity into the quality of undergraduate teaching. One test of this argument is that it is rarely used the other way around, i.e., that the teaching of undergraduates is essential to good graduate teaching. (The argument is occasionally encountered that forcing researchers to teach undergraduates will oblige them to learn how to communicate their research results to the average educated man; this prescription is of doubtful efficacy, since instead the undergraduates may be obliged to learn a smattering of jargon and technique well above their level of comprehension; in any case, the argument attempts to impose a particular judgment on the responsibility of scientific research to society.) Another test of the argument is that it is never applied at the margin between undergraduate and secondary-school teaching. That is, it is not argued that a man cannot teach effectively in a secondary school unless he is also allowed to teach a university-level course or two, or that a university teacher should be obliged to teach a course or two in a secondary school in order to keep his feet on the ground. These reflections suggest that there is a strong element of self-indulgence in the belief that graduate teaching is a natural and necessary commitment of undergraduate teaching.

There are, on the contrary, good reasons to believe that properly-conducted graduate instruction at an adequate level will neither feed back directly into the undergraduate teaching of a department--its main role in this connection being the training of new teachers for a variety of universities rather than the maintenance of quality of existing teachers in that particular university--nor be efficient if forced to compromise heavily with the distinctive needs of undergraduate-level teaching.

The reasons are, first, that a graduate student is a different breed of animal than an undergraduate student, or should be, because he has decided to make a professional career in the subject. This means that he has made a commitment to the subject, regardless of any philosophical or political doubts he may have had or been encouraged to have about it as an undergraduate, and seeks training in how to master and use it most effectively, not further exposure to the expression of new and more sophisticated doubts. An undergraduate teacher can and should be playful and skeptical about the subject to some extent at least; a graduate teacher has to be serious about it. (An undergraduate teacher, for example, can legitimately classify and discuss the leading economists according to their political views; a graduate teacher is failing in his responsibilities if he does this instead of concentrating on the scientific core of the issues in dispute among the professor's leaders.)

Correspondingly, graduate teaching requires a different kind (or a different balance) of knowledge. An undergraduate teacher, even though teaching a fairly technical branch of the subject, should see economics as but a part of man's knowledge of himself and his society and history; and in teaching it as such he will have to rely in large part on his own general cultural knowledge and often "live by his wits" in coping with student difficulties. Graduate teaching requires real and demonstrable knowledge of the literature and theory of economics, not just enough knowledge of general principle to permit the working out of plausible answers to questions. Further, the aim is to combine sufficient knowledge of the literature and its implications to be able to discriminate between old problems in a new guise and genuinely new problems, with sufficient knowledge of the techniques of research to be able to advise usefully on how to go about finding a genuine answer and not merely a conventionally plausible one to a genuinely new problem. There are two rather different sets of talents required for the two types of teaching. A number of scholars enjoy both types, and some distinguished intellects no doubt perform both with distinction. But a university recruiting staff for a graduate programme, or a combined undergraduate-graduate department, must employ selection criteria that would not be optimal for staffing a purely undergraduate department. And faculty who teach at both levels pay a personal cost of maintaining the distinctive skills and stocks of knowledge required.

This conflict in the staffing requirements of undergraduate and graduate programmes is reinforced by differences in the scale at which they are efficiently carried out. Recognition of the scale economies in graduate (especially Ph.D.-level) instruction is a fairly recent matter, save at a very few universities in the United States. Elsewhere, the small numbers of graduate students and the regionally or nationally limited narkets for their services have impelled a training pattern whereby they attached themselves to a university department listening to whatever lectures and attending whatever seminars its professors cared to give, and acquiring their training by reading, discussing with their seniors, and struggling with the composition of a thesis marked by whatever originality they could muster. This handicraft-apprenticeship form of graduate training was undoubtedly appropriate to the conditions of a small-scale academic community, especially one in which both student and staff time was relatively cheap, and the accumulation of superior wisdom with age and reading rather than the acquisition of superior technique by hard study constituted academic distinction. But it is a very inefficient process in a society that requires a large output of well-qualified postgraduate students, and in which the scholarly subject is developing and changing rapidly in terms of both the sophistication of techniques of enquiry and the problems considered relevant and at the frontier of knowledge.

In these circumstances, there are considerable economies of scale to be had in graduate study. If only one man per decade needs to read a certain batch of literature or master a certain range of techniques, he can probably do it most efficiently, from society's point of view, by private reading guided by a senior academic adviser. But if ten people per year need the same background, it is probably best provided by formal instructional courses by an expert whose main charge is to keep his stock of knowledge up to date. The expert can make his stock of knowledge available to additional students at negligible marginal cost and may secure the benefit of more lively class discussion. Further, the enterprise is likely to be more efficient if more than one specialist per field is working in the same university, and the university supports specialist groups in several cognate fields within the same general discipline. But this involves large-scale throughput of students to make it worth the cost and allow the students some freedom in choosing their area of specialization (since one cannot, and in the interests of flexibility should not, expect them to know exactly what they want to do for the rest of their lives before they enter graduate school). As at all earlier levels of the educational system, students learn at least as much from each other--for good or ill--as from their teachers. At lower levels--high school and university--students sometimes drive each other and sometimes rein in each others' efforts; a well-run graduate school should achieve an optimal combination of competition and cooperation--competition for supremacy in the subject, and cooperation in teaching each other and assembling information on the literature and the techniques for the common benefit. But this optimal combination requires a body of graduate students large enough to meet two requirements: inability of the students to form an effective effort-restricting social cartel; and ability of the staff to grade honestly according to their standards of competent student performance without having to worry too much about whether an adequate percentage of the students will be capable of passing.

These considerations suggest a minimum size of an efficient graduate programme in terms of number and average quality of students. Hence both students and graduate teachers should be concentrated in centres large enough to provide this scale, the number of such centres in a given geographical area being proportioned to the flow supply of graduate degree-holders required. But this corollary contains several catches or qualifications. First, an individual university, or region, or country may have a comparative advantage in the production of graduate degree-holders for the outside world, and should (in some sense) produce more than it needs for itself. The real problem here is proper pricing of educational services; if education is subsidized by the government of the geographical unit concerned, there will naturally be political pressures to confine the subsidy to the natives of that area, and those who as graduates are either likely or obliged to remain residents. This economic consideration constitutes a problem in second-best economics. Another, essentially academic, consideration is that the standardization of the instructional programme in the large Ph.D.-granting institutions may stamp out individual potentialities for genuine originality, so that the small-scale informal and loosely-structured programmes should be retained. To this there are two counter-considerations. First, the essence of the scientific process is to winnow out genuinely original from spuriously original contributors. This cannot be done without stringent standards of scientific proof and acceptability, which are unlikely to be inculcated in very small-scale graduate programmes. Second, all sorts of evidence suggests that the human mind when youthful can survive a very intensive brain-washing without requiring much recuperative time thereafter before the old Adam breaks out again.

The main instinctive reactions of academic teachers against the proposal to concentrate graduate work in a few centres of agglomerated graduate students and specialized staff seems to be the apparent unfairness of classifying universities and their staff into those that teach only at the undergraduate level, and those that teach at both undergraduate and graduate levels or primarily at the graduate level. This objection overlooks a number of important points. First, in the United States, where the development of specialized graduate work in large graduate centres has probably gone much further than in any other country, there is a broad spectrum of institutions of higher learning. It includes both universities specializing completely in undergraduate training and universities specializing more or less completely on graduate training, both of which offer quite reputable and respectable academic careers. Second, the objection is motivated by considerations of self-esteem on the part of the staff rather than by concern for the welfare of the graduate students and the efficiency of their instruction, a matter touched on earlier. There is no compelling social reason why the staff should be kept happy by the provision of a captive audience of graduate students, if the result is to give the latter both a worse and a more expensive training than they could have had by concentration of graduate training in a limited number of large-scale graduate schools. Third, not every academic likes the standard mixture of undergraduate instruction, graduate instruction, and research that the proposition under discussion stipulates. Offered a varied range of choices, faculty members in the longer run would sort themselves out between universities, with the undergraduate-teaching-inclined going to one type of university and the graduate-teaching-research-oriented going to another type of university. In fact, this sorting-out process might make everyone happier all round, because instead of each university department having to fight out internally the balance between teaching and research interests that it considered optimal, the balance would be defined in advance and individuals would choose the combination or balance of the two they most preferred.

Nor does it follow that a division of universities into solely undergraduate-teaching and those with substantial graduate departments would necessarily mean that the latter did all the research and held the frontiers of knowledge while the former simply vegetated behind the lines. First, teaching graduate students can be a great stimulus to research and original thought--if the students are good. But if the students are bad, it can be a great time-consuming and intellectually debilitating bore. A small or second-rate department might well be more intellectually lively and research-productive if it eschewed graduate teaching in order to concentrate on faculty seminars and faculty team-research, instead of trying to elevate poor graduate students into competent research assistants for large-scale research projects. Similarly, large-scale computer projects and team-research by graduate students directed by an eminent senior economist is not the best way to produce socially useful research results on all important scholarly questions. Many good and useful books and articles are produced by undergraduate teachers who learned from their students that there existed a major problem to which the textbooks gave no satisfactory answer. Sabbatical leaves well spent may be a more efficient mechanism for promoting feedback from research to undergraduate teaching than the conduct of regular graduate teaching of low-quality graduate students.

In summary, there does not seem to be any very strong case for universal graduate teaching as the most efficient way of improving the quality of undergraduate teaching, training the next generation of teachers, and promoting high-quality research. The better solution might instead be to concentrate graduate instruction in a few large-scale institutions and to make adequate provision for undergraduate teachers to be kept in touch with and have access to these institutions as required by their own teaching and research interests.

III. Manpower Needs and Supplies Projections in Economics

Our terms of reference call for detailed projections of the demand for graduate economists in Ontario and other relevant markets, derivation of an appropriate provincial supply (annually, over the coming decade), and a determination of enrolment levels for each university that would produce this desired supply. In Chapter II we stressed one reason why this exercise cannot be undertaken mechanically--the political choice of the proportion of Canada's graduate economists to be trained in Ontario (instead of elsewhere in Canada, or outside the country). The preceding section of this chapter has outlined the differing geographical interests (Ontario, rest of Canada, rest of world) bearing on this choice, and the divergent functional group interests (public, academics, university administrators) within Ontario. It also set forth our general views on how to organize the production of graduate economists efficiently, and what complementarity to expect between graduate and undergraduate instruction.

Given the inevitably nontechnical nature of the choice of an appropriate rate of supply, we now consider the social cost that would result from any errors of overproduction or underproduction. The general framework of our terms of reference assumes that as a nation develops and its economy grows it will have quantifiable needs for people possessing particular types of skills; by implication, the task of educational planning is to ensure that the right numbers of people possessing the requisite skills will be produced by the educational system. This assumption would be valid, however, only if people were analogous to machines, i.e. if once built they would do nothing but the specific job for which they were designed. In that case, any overproduction or underproduction of the right kind of trained people would be a sheer and obvious social waste. But people are not machines: they have the capacity to adapt to changing circumstances, and to put elements in their training instilled for one purpose to quite different uses. Educational policy, therefore, requires the guidance not of exact or close-to-exact figures, but rather a range of figures that represents a not-too-expensive loss from potential individual adaptation to any error resulting from original miscalculation.

This point implies that the importance of specific and detailed calculations of manpower needs and supplies depends very much on the range of employment opportunities open to the graduate of a specific educational programme. If that range is large, and the difference between potential incomes from alternative employments (taken to represent social contribution) correspondingly small, errors on either side in the allocation of educational opportunities will have little social cost, and consequently detailed forecasts of needs and demands will not be worth the investment of much public money. If on the other hand the range of employment opportunities is very narrow, and errors in forecasting involve either very expensive shortages of required talent or wastes of costly but unmarketable training, accurate forecasts of demands and supplies will be socially extremely valuable.

The question, then, is whether the provision of university graduate training has a social pay-off in terms of contribution to the individual trainees' eventual social and economic performance, or whether it is an irrelevant and expensive use of his time and society's resources. This depends on whether the training is very narrowly oriented towards a specific type of job, or whether it is merely useful--but still necessary for a wide variety of jobs. It is our opinion that training in economics allows the trainee to undertake a wide variety of jobs that he would not otherwise be able to qualify for and to handle. Therefore there is no significant loss involved in having an excess of economics graduate students beyond the number indicated as necessary by statistical projections of requirements. On the other hand, there would be no significant social loss in training fewer economists in Ontario at the graduate level than forecasts of prospective needs might suggest. This would be true even without the availability of graduates trained outside of Ontario. For university teaching of economics there is no generally recognized substitute for economics Ph.D.'s. Many other jobs held by economics M.A.'s and Ph.D.'s., however, can also be filled with satisfactory results by persons trained in business administration, statistics, or public administration; B.A.'s in economics are often reasonably satisfactory substitutes for M.A.'s.

But the main reason why undersupply would be without serious social cost is the fact that the Ontario education system's graduates compete in a market that extends outside of Ontario and often outside of Canada. As we stressed in Chapter II, there is no economic or social logic in matching Ontario "production" against Ontario "consumption" of graduates, unless one makes the a priori judgment that production and consumption should balance even though a substantial proportion of each is traded with the outside world. It might well be most rational economically for Ontario to train a relatively small number of graduates, accepting the fact that a substantial proportion of these will subsequently find employment in the federal government or outside the province, and to rely largely on the subsidized training of graduates in other countries (who may of course be preponderately Canadian students) to meet its own needs.

This consideration suggests two others, relevant to our enquiry. The first, and far the more important, is that since it is impossible to lay down any reasonably defensible general principle for determining what proportion of Ontario's (or for that matter of Canada's) prospective demand for graduate degree-holders in economics should be supplied by Ontario's universities, the prime consideration should be to ensure that Ontario graduate programmes are of internationally competitive quality. Competitive quality has two sides to it: the staff responsible for the instruction should be sufficiently well qualified to teach at the graduate level (including the supervision of M.A. and Ph.D. theses); and the students should be of sufficient ability to merit the investment in them of staff time and other real resources (whether or not, but especially if, the taxpayer is bearing the cost).

The second consideration is that, given the international nature of both the supply of and the demand for students trained at the graduate level, and the extensive international exchange and circulation of people with this level of qualifications, it would be both short-sighted and curmudgeonly for the government and public of Ontario to attempt to confine graduate work in the Province either to citizens of the Province (or even of Canada) or to those who were willing to undertake an obligation to take employment on graduation with the Ontario government or some other employer in the Province. As already mentioned, Ontario has obligations both to the rest of Canada and to the poorer countries of the world to make its graduate programmes available to some at least of their students. In addition, there is the academic consideration that a good part of a graduate student's training comes from arguing and comparing notes with his fellow-students, especially those from other undergraduate institutions and other countries than his own. Confinement of Ontario graduate work to Ontario, or even to Canadian students would deprive those students of some part of the benefits of a good graduate programme. In saying this, however, we would also point out that graduate programmes populated predominantly by inferior-quality foreign students admitted only to make up programmed student numbers are a waste both of the taxpayer's money and of the time of both the staff and the students involved. The proper solution is not to exclude foreign students for the benefit of low-quality Ontario or Canadian students, but to make the graduate programmes good enough in quality and small enough in total numbers so that the students who win admission are a worth-while investment wherever they come from.

CHAPTER IV

EVALUATION OF THE ECONOMICS DEPARTMENTS OF ONTARIO

I. Introduction

Detailed evaluation of the strengths and weaknesses of the individual economics departments of the universities of Ontario with respect to graduate work would consume more space than is appropriate to a report of this kind. Also, detailed discussion of the current position would run into rapidly diminishing returns in terms of usefulness, because formal graduate training in economics to the Ph.D. level has only recently been introduced in the majority of the Ontario departments, and most departments are still adjusting to the implications of the commitment, and while frequently the strength of a department depends either on a few key individuals who may move elsewhere or on success in recruiting one or more persons qualified to make good key deficiencies in a department's instructional offerings. It has, therefore, seemed to us more useful to present brief summary descriptions and evaluations of the individual departments, based on the information collected from these departments and on impressions derived from the consultants' visits, as an Appendix to this chapter, and to confine the text of the chapter to the presentation of information and evaluation of the system as a whole. For this purpose, the chapter is divided into two major sections. The first of these presents tabular material relevant to the questions raised in our terms of reference. The second, which involves some qualitative replication of the first, discusses those questions in general terms. In each section, however, we comment on individual departments that deviate in one way or another from a (very broadly conceived) provincial average.

II. A Statistical Overview

(a) Origin of Graduate Students

Table 5 shows the origins of graduate students by country of first degree and citizenship status, for Ontario Universities and the rest of Canada, 1971-72.

Table 5.

Origin of Graduate Students[a] by Country of First Degree and Citizenship Status, Ontario Universities and Rest of Canada, 1971-72.

University	Landed Immigrants as per cent of total		Student and other visas as per cent of total		Countries Other than U.S., U.K., and Australia as per cent of total	
	M.A.	Ph.D.	M.A.	Ph.D.	M.A.	Ph.D.
Carleton	12%	33%	8%	8%	10%	33%
Guelph	0	n.a.	33	n.a.	33	n.a.
Lakehead	42	n.a.	0	n.a.	42	n.a.
McMaster	13	36	23	36	17	57
Ottawa	9	0	7	57	7	29
Queen's	9	19	9	8	7	11
Toronto	13	18	44	9	19	9
Waterloo	44	n.a.	11	n.a.	33	n.a.
Western[b]	16	29	22	20	28	35
Windsor[b]	5	n.a.	26	n.a.	21	n.a.
York	26	n.a.	28	n.a.	43	n.a.
Ontario TOTAL	16	23	17	15	19	21
All social sciences:[c]						
Ontario	14		7		4[d]	
Rest of Canada	9		11		6[d]	
Canada	12		9		5[d]	

a/. Total of full-time plus part-time.

b/. Foreign students on special programmes, such as CIDA.

c/. Data from Canadian Association of Graduate Schools, 1971 Statistical Report, Table 14, pertain to 1970-71. They are based on actual citizenship in all cases, not country of first degree.

d/. Includes only foreign visas, not landed immigrants; includes all foreign except U.S., U.K.

The interpretation of data on immigrant and foreign graduate students faces a basic ambiguity. On the one hand, an institution's "foreign percentage" may be high because of its eminence and the prestige its programmes enjoy in the outside world. On the other hand, a high percentage may reflect the use of fellowship funds to "pack" programmes that cannot attract qualified Canadians.

Comparing Ontario universities, and discounting percentages based on small numbers of students, a notable difference appears in Ph.D. programmes between Queen's and Toronto, on the one hand, and Western and McMaster, on the other. Considering that the former pair are surely better known in the world at large, the hypothesis cannot be rejected that the latter pair might have taken a lenient view of foreign applicants. Any final judgment about Western and McMaster should, of course, take account of any special programmes they have developed for training foreign students; such as Western's Ghana Programme.

Notably large proportions of immigrant and/or foreign student M.A. candidates are found at York, Lakehead, Waterloo, and Western (the last, once more, probably accounted for by special programmes). Again, it is impossible to rule out the hypothesis that foreign applicants have been used to fill places.

For the Ontario universities taken together, about one-sixth of graduate students enrolled in 1971-72 were foreigners on student or other visas, and one-fifth were landed immigrants. These fractions by themselves do not appear alarmingly large, although they could not be called too small. A roughly comparable figure for all social science graduate students in Ontario (1970-71) shows economics enrollments to include a much larger proportion of foreign students on visas, and a somewhat higher proportion of landed immigrants. In the rest of Canada, foreign students comprise a larger proportion of enrollments, and landed immigrants a smaller proportion. The fraction elsewhere in Canada coming from countries other than the U.S., U.K., and Australia is also higher. If graduate programmes in the social sciences are "packed" with foreign students, the practice is more common outside of Ontario than within the province. (The difference in the share of landed immigrants probably reflects a difference in the provincial population.) On the other hand, the differential in Ontario between economics and other social sciences remains to be explained.

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(b) Sources of Financial Support of Graduate Students

Table 6 (page A-38) shows the sources of financial support for M.A. and Ph.D. candidates, in the individual Ontario universities and in total, for various years or averages of years 1967-72 as available.

Over the five years on which we received information, Canada Council Fellowships have held a roughly constant share and Ontario Graduate Fellowships have declined proportionally. Teaching and research assistantships have apparently become more important. So have other major sources of scholarships (which include CIDA, foreign government scholarships, and funds provided by the universities themselves). The decline in the percentage of "miscellaneous" and "unknown" makes interpretation difficult, but it appears that the universities themselves have shouldered an increasing proportion of the burden of supporting (and competing for)

Table 6. Sources of Financial Support, M. A. and Doctoral Candidates, Ontario Universities and Ontario Total, Various Years 1967-72.

University	Year	Canada Council		Ontario Graduate Fellowships		Other Major Scholarships		Teaching Assistantships[a]		Research Assistantships		TOTAL		Per Cent Unaccounted[b]
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
All Universities	1967-60	22	11	93	46	21	10	21	10	6	3	202	100	20
	1968-69	27	12	76	34	35	16	35	16	3	1	225	100	21
	1969-70	41	15	96	35	38	14	26	9	13	5	274	100	22
	1970-71	39	11	105	29	73	20	56	16	36	10	357	100	14
	197[illegible]-72	43	12	94	26	67	18	103	28	37	10	367	100	10
Carleton	1969-72 Average	3	4	21	27	7	9	22	28	12	15	78	100	37
Guelph	"	0	0	3	14	0	0	12	57	0	0	21	100	29
Lakehead	"	0	0	3	12	0	0	13	52	1	4	25	100	32
McMaster	"	7	6	33	29	60	53	8	7	0	0	113	100	5
Ottawa	1971-72	1	3	8	21	n.a.	n.a.	20	51	10	26	39	100	0
Queen's	1969-72 Average	44	22	83	41	42	21	18	9	10	5	202	100	2
Toronto	"	54	30	77	42	27	15	11	6	2	1	182	100	6
Waterloo	1970-72 Average	1	10	2	20	0	0	6	60	0	0	10	100	10
Western	1969-72 Average	23	13	47	27	23	13	55	31	0	0	176	100	16
Windsor	"	0	0	10	27	7	19	10	27	7	19	37	100	8
York	"	0	0	10	13	12	16	22	29	31	41	76	100	0

a/. Includes combined teaching and research assistantships.

b/. Self-support; other; unknown. Also includes a few combinations of listed categories.

graduate students.

Marked differences appear in the universities' proportional dependence on these various sources of support. Queen's and Toronto have been markedly more successful than the rest in attracting Canada Council and Ontario Graduate Fellowships. McMaster has been notable for the extent to which it has thrown its own resources into fellowships. The universities with only M.A. programmes, or with less prestigious graduate programmes, have depended on teaching and research assistantships.

It is impossible to explain these differences other than by the universities' uneven success in competing for the limited pool of qualified candidates for graduate study. Some have readily attracted outside scholarship funds through the prestige of the institution or the department. Others, less well endowed in these regards, have employed various strategies to attract students.

There are also marked differences among the departments in the extent to which graduate students obtain financial support of one kind or another. Roughly a third of the students at Carleton, Guelph, and Lakehead receive no identifiable financial support in the form of scholarship or teaching or research assistantships; aside from Western (one-eighth) ten percent or less of the graduate students in other departments are in this position. The implications of these differences are, however, difficult to draw. On the one hand, apart from the Canada Council and Ontario Graduate Fellowships, there is no easy means of telling how much or little financial support the average student receives: and there are two alternative strategies a department may choose to follow, each appropriate in certain circumstances, namely to spread its resources thinly over the maximum possible number of students to keep them all feeling privileged, and to concentrate resources on a relatively small number of large prizes in order to attract an elite of superior students who will serve as "bait" to attract others. On the other hand, especially at the M.A. level, the location of the university may enable it to attract more senior students who are able and willing to pay their own way (this seems true of Carleton and Lakehead, particularly).

(c) Employment of M.A.'s, ABD's, and Ph.D.'s Graduated by Ontario Universities.

We were unable to obtain complete data on the employment of M.A.'s and can present figures for only five universities (See Table 7). The sample shows that about half of the completed M.A.'s proceed to studies for the Ph.D. degree. Very few take teaching positions (e.g., in community colleges) requiring the M.A. only; this may be relevant to the question of the capacity of Ontario to absorb any over-supply of M.A.'s, though as Chapter II concluded there is no serious prospect of an over-supply.

Table 7.

Employment of M.A. Recipients, Selected Ontario Universities, 1964-72[a]

Type of Employment	University					Total
	Carleton	Windsor	Guelph	Western	Queen's	
Federal government	13	10	1	21	14	78
Provincial or local government	0	2	1		3	
Foreign government	4	7	2		0	
Business	1	8	3	13	8	33
Teaching (without Ph.D.)	0	1	0	5	15	105
Ph.D. studies in progress	11	5	4	59		
Ph.D. studies completed	4	1	0			

[a] Employment is indicated by job taken immediately upon completion of the degree; some universities also furnished data on jobs currently held, but these did not seem to show a markedly different pattern. Where a breakdown was provided, for those continuing to the Ph.D. degree, between doctorates completed and in progress, it is shown in the final two lines. Years covered and extent of nonresponse varies from university to university.

Of the balance who do not go on to Ph.D. study, government employment accounts for more than two thirds. No important differences appear among the universities included in the table, though it is perhaps significant that a relatively high proportion of Western Ontario students go on for the Ph.D. degree. The similarity of the pattern for the other departments, and particularly the fact that Carleton does not send a significantly higher fraction into federal employment than do the others, suggests that the market for M.A.'s is not local to the university but instead is a pooled provincial or national market. (About 70 to 80 percent of the University of Ottawa's M.A.'s, however, do take federal employment.) This in turn would suggest fairly strongly that the argument for training students at the M.A. (and post-M.A.) levels in relatively isolated regional universities in order to service local needs for such qualifications is very weak, regardless of the case for dispersing undergraduate instruction among regional concentrations of population.

More complete data are available on Ph.D.'s and ABD's ("all but dissertation" completed). Tables 8 and 9 show, for all doctoral candidates placed by Ontario universities in 1967-72, the type of institution and the location of the first job held, for each category. The ABD's are presumably double-counted in the Ph.D. figures, in that the job they held is recorded as of the year the Ph.D. was actually awarded.

Table 8. Employment of Ph.D.'s in Economics, Ontario Universities, By Nature and Location of First Job, 1967-72.

	LOCATION						
Employment	Ontario	Rest of Canada	Home Country	Other	Unknown	Total	%
University	15	6	2	1	0	24	60
Industry	1	0	0	0	0	1	2
Government	7	1	2	0	0	10	25
Community College	0	0	0	0	0	0	0
Post-doctoral Fellowship	0	0	0	0	0	0	0
Other Research	0	0	0	1	0	1	2
Other	2	0	1	0	1	4	10
TOTAL	25	7	5	2	1	40	
%	62	18	12	5	2		100

Table 9. Employment of ABD's in Economics, Ontario Universities, By Nature and Location of First Job, 1967-72.

	LOCATION						
Employment	Ontario	Rest of Canada	Home Country	Other	Unknown	Total	%
University	20	9	1	2	0	32	36
Industry	1	1	0	0	0	2	2
Government	16	4	0	3	0	23	26
Community College	1	0	0	0	0	1	1
Post-doctoral Fellowship	27	1	0	1	0	29	32
Other Research	3	0	0	0	0	3	3
Other	0	0	0	0	0	0	0
TOTAL	68	15	1	6	0	90	
%	76	17	1	7	0		100

As is expected Ontario doctoral candidates have been employed principally in teaching. The demand was nearly all from four-year colleges and universities; there were no significant placements (even ABD's)at the community colleges. Government is the other substantial employer -- and the Canadian federal government appears to dominate. Ontario's doctoral programmes serve mostly a local market -- with 62 percent of Ph.D.'s remaining in Ontario and 80 percent in Canada. (The corresponding figures for ABD's are higher, as one would expect.) expect.)

The percentages of trained economists remaining in Canada can be compared to the data on the national origins of graduate students (reflected in country of first degree). In 1971-72,23 percent of Ph.D. candidates in Ontario universities were landed immigrants, another 15 percent on student or other visas. Assuming that the 1971-72 data are representative for earlier years, the fact that less than 20 percent of completed Ph.D.'s take first jobs outside of Canada suggests (in a general way) a positive "brain drain" associated with graduate instruction. That is, Ontario Ph.D. programmes serve in part as a means of net recruitment of personnel from other countries to fill posts in Ontario and Canada generally which require the Ph.D. qualification.

(d) Distribution of Ontario University Economics Faculty, By Country of First Degree and Country of Ph.D.

Information on the sources of existing Ontario university economics faculties is also relevant to the appraisal of the market for holders of higher degrees from Ontario economics departments, and especially to the prospective market for the considerably enlarged supply that these departments project for the future.

We lack information on the initial citizenship of Canadian economists, but the information on country of first degree and country of Ph.D. presented in Table 10 gives some indication of their historical origins and educational patterns.

Exactly half are of Canadian origin, 30 percent from Ontario. Only 15 percent are Canadian trained, 10 percent in Ontario. The half of non-Canadian origin (i.e., first degree) is widely dispersed: 20 percent from the United States, 9 percent from the United Kingdom, and 21 percent from other countries. The United States predominates as the country of Ph.D. degree, with 65 percent of the total.

The table shows the extent to which Canadians have depended on schools abroad for training at the Ph.D. level. 65 percent of them have gone to the United States (68 percent for Ontario, 61 percent for other Canadians), and 11 percent to the United Kingdom (8 percent for Ontario, 16 percent for other). Only 21 percent of Canadians have taken their Ph.D. work in Canada (15 percent in Ontario, 6 percent elsewhere in Canada). Of Ontario first-degree holders, 19 percent stay in Ontario for their Ph.D. degree. Of first-degree holders from elsewhere in Canada, only 11 percent take Ph.D.'s elsewhere in Canada. Nearly all American first-degree holders (93 percent) secure U.S. Ph.D.'s. Half (46 percent) of U.K. first-degree holders take U.K. Ph.D.'s; one-quarter of them came to the United States for doctoral work. Likewise, other foreign first-degree holders secured U.S. doctorates in about half of the cases.

The percentage distributions for each area of Ph.D. show the "market origin" of that portion of their graduate students holding Ontario university jobs. Eighty percent of Ontario Ph.D. holders come from Canada, as do 73 percent of those who took Ph.D.'s elsewhere in Canada. Holders of United States and United Kingdom degrees are of diverse origins.

Broadly speaking (and noting qualifications implied in the data), Canadians have shown substantial preferences for securing their Ph.D. degrees outside of Canada (78 percent for Ontario, 81 percent for other Canada), and Canadian universities have revealed a preference for hiring economists with graduate training in other countries (85 percent).

These figures show that increased production of Ph.D.'s on the scale projected by the individual Ontario economics departments would imply a truly massive substitution of economists of Canadian origin for those of foreign origin (assuming that Canadian first degrees are mostly taken by Canadians and that most of those taking the proposed expanded Ph.D. programmes

Table 10.

Distribution of Ontario Universities Economics Faculty, By Country of First Degree and Country of Ph.D.[a]

Country of Ph.D.		Country of First Degree										Total	
		Ontario		Other Canada		United States		United Kingdom		Other			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Ontario	No.	16	60	5	19	1	4	4	15	1	4	27	10
	%	19		9		2		15		2			
Other Canada	No.	2	13	6	40	1	7	3	20	3	20	15	5
	%	2		11		2		12		5			
United States	No.	57	31	34	18	54	29	7	4	32	17	184	65
	%	68		61		93		27		54			
United Kingdom	No.	7	20	9	26	1	3	12	35	5	15	34	12
	%	8		16		2		46		8			
Other foreign	No.	2	9	2	9	1	4	0	0	18	78	23	8
	%	2		4		2		0		31			
Total	No.	84		56		58		26		59		283	
	%	30		20		20		9		21			100

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[a] Data taken from information submitted by individual faculty members. Of those supplying information, 283 of 329 hold the Ph.D. All underlined figures are absolute numbers. Because of rounding errors, percentages may fail to add vertically or horizontally to 100%.

in Ontario would be Canadians), and of Ontario-trained for foreign-trained Ph.D.'s in economics, if the bulk of those trained to this level were to be employed in Ontario economics departments. As mentioned, this would in turn imply a massive change in (frustration of?) the current revealed preferences of Canadian students for foreign training and of Ontario departments for staff with foreign degrees.

(e) Estimated Relative Teaching Burdens, Ontario Universities, and Faculty Age Distributions

Whether a department can expand its throughput of graduate students or handle those now enrolled depends, in part, on its student-faculty ratio. Superficial comparisons suggest that the load of graduate instruction in Ontario is typically lighter than that in leading United States universities. This kind of comparison is unsatisfactory, however, for two reasons. First, it does not take into account undergraduate teaching loads and other faculty responsibilities that may differ between the Canadian and U.S. institutions. Second, work loads at American universities are in any case not necessarily an appropriate comparison.

To avoid these difficulties, we sought to develop an evaluation of faculty loads of the various Ontario departments on the basis of their own average standards, so that their instructional burdens can be viewed as deviations from the Ontario mean. This would be a simple arithmetical exercise if one had an objective weighting scheme for adding graduate and undergraduate student loads. Such an objective weight is lacking, however. Hence we employ a procedure that derives an implicit weight from the choices actually made by Ontario institutions in number of economics faculty, number of undergraduate courses, and number of graduate students admitted.

Specifically, we calculated regression equations of full-time equivalent faculty during 1971-72 on measures of each department's undergraduate and graduate load. (The raw data employed are presented in Table 11.) The following variables were employed:

Y_i	Number of full-time-equivalent faculty members actually teaching in the ith department during the academic year 1971-72.
X_{1i}	Number of undergraduate full courses offered in the ith department during the academic year 1971-72 (summer session excluded).
X_{2i}	Number of undergraduate student-courses offered in the ith department during the academic year 1971-72 (i.e. number of courses multiplied by the average number of students enrolled in each course).
X_{3i}	Number of M.A. and Ph.D. candidates enrolled in the ith department during the academic year 1971-72; part-time students were counted as half-time.

Variables X_1 and X_2 provide alternative measures of the undergraduate teaching load. Class size is a variable under some institutional control, and the resources that a department could allocate to graduate instruction might be limited either by the number of undergraduates seeking instruction or the number of undergraduate courses it felt constrained to offer.

The following regression equations were computed:

1. $Y = 0.20 \quad 0.42X_1 + 0.13X_3 \qquad R^2 + 0.93$

2. $Y = 1.75 \quad 0.007X_2 + 0.20X_3 \qquad R^2 + 0.93$

(Standard errors are not shown, because the sample exhausts its assumed parent population; regression analysis is being employed here as a form of descriptive statistical method.) Residuals were computed from each equation, as follows:

University	Equation 1	Equation 2
Carleton	+1.5	-5.4
Guelph	+2.1	-4.5
Lakehead	-0.2	+1.8
McMaster	+7.5	-2.4
Ottawa	-6.3	+2.0
Queen's	-1.0	-2.5
Toronto	+2.9	+5.9
Waterloo	-2.8	+2.2
Western Ontario	-2.3	-1.5
Windsor	-3.4	+1.0
York	+2.1	+3.4

A positive residual implies that the institution is "overstaffed" by the common standard implicit in the regression equation; a negative residual implies that it is understaffed. Equation 1 measures the undergraduate burden in terms of course, equation 2 in terms of students. Hence a positive residual for equation 1 tends to imply relatively light teaching loads for faculty members; a positive residual for equation 2 tends to imply simply a relatively low student-faculty ratio. A department with a positive residual in equation 1 and a negative in equation 2 has implicitly opted for smaller than average class size; the opposite pattern implies that a heavy undergraduate burden is being handled by large class sizes at the undergraduate level.

Of the Ph.D. granting departments, Queen's and Western Ontario would appear to be understaffed relative to the average provincial standard. Toronto and (less clearly) McMaster would appear overstaffed. Conclusions cannot be drawn for Carleton and Ottawa without some judgment about the appropriate size of undergraduate classes. (Carleton's data imply an average of 66 students per class, Ottawa's only 14). The patterns are less clear for departments granting only the M.A. degree. York appears overstaffed relative to the provincial standard, but the others show opposite-signed residuals from the two regressions. Average undergraduate class size is quite high at Guelph (85), and it can probably be called understaffed. Lakehead, Waterloo, and Windsor all opt for slightly heavy teaching loads and small classes -- patterns probably appropriate to relatively small departments engaged primarily in undergraduate instruction.

Conclusions from these data must be drawn with care. It is not necessarily proper to judge all institutions by the same provincial standard, or by a provincial standard constructed in this fashion. The workload comparisons to leading United States institutions suggest somewhat different conclusions. The U.S. and provincial comparisons together, however, might support the judgment that few if any of these departments is seriously overworked, and at least some could sustain a larger throughput of graduate students if this were desirable on other grounds.

Table 11. Undergraduate and Graduate Teaching Burdens, Relative to Full-Time-Equivalent Faculty Size, Ontario Universities, Academic Year 1971-72.

University	Full-time equivalent Faculty	Undergraduate classes[a]	Undergraduate students[a]	Students per class[b]	Graduate Students[c]
Carleton	29.2	56.6	3212	57	45
Guelph	14.0	27.0	1150	43	3
Lakehead	11.0[d]	23.0	782	34	10
McMaster	23.0	28.0	2204	79	41
Ottawa	19.5	43.0	604	14	58
Queen's	30.0	43.5	1641	38	96
Toronto	58.3	110.5	5304	48	68
Waterloo	18.5	47.5	1818	38	9
Western Ontario	36.5	74.0	3528	48	58
Windsor	19.0	47.0[e]	1770	38	19
York	23.3	37.0	1387	37	42

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[a] Summer session excluded. Each section of a course counts as one class.

[b] Undergraduate courses only.

[c] M.A. plus Ph.D., counting part-time students as half-time. Note that ABD's are counted as part-time students. An ABD actively working on a thesis is a burden on faculty time at least equal to any full-time student; on the other hand, an inactive ABD claims no faculty time at all.

[d] Estimated; other data supplied on special inquiry to department chairmen.

[e] May include summer courses.

The student/faculty ratio is a defective measure of excess of deficient teaching capacity, especially at the graduate level, because it makes no adjustments for quality of teachers. One, still-crude, way of approaching this question is via the age distribution of the current faculty, on the presumptions that a relatively high proportion of young faculty represents comparative lack of experience and of research performance (though both may accrue in due course), and a relatively high proportion of older (over-40) faculty represents a comparative lack of vigour, flexibility, and research orientation (unless there is independent evidence of exceptional professional liveliness among that age group).

The available data on this point are presented in Table 12. All the departments except Lakehead display a heavy concentration in the 30-39 year range, as one would expect from the concentration of Ontario university expansion in the early 1960's; and Lakehead is heavy in the two adjoining age groups, with no one 50 or over. The principal deviant in one direction is Western Ontario, which is bottom-heavy with 39 percent of department members under 30, reflecting unusually rapid turnover among the junior staff. The principal deviants in the other direction are Toronto and York, with respectively 48 and 46 percent of department members 40 and over. In the case of York, this reflects a deliberate policy of attempting to build a good department rapidly by engaging senior economists of international reputation. In the case of Toronto, the high proportion of 40-and-overs is coupled with the lowest proportion of under-30's, though this latter statistic is partly spurious in the sense that Toronto's assistant professors are commonly just over 30. Nevertheless, the two statistics together, taken in conjunction with the evidence of the curriculum vitae of department members and the departmental visit, strongly suggests that Toronto is relatively richly endowed with middle-aged deadwood.

Table 12.

Age Distribution of Economists Holding Teaching Positions at Ontario Universities, as of July 1, 1972[a]

University	Under 30		30 - 39		40 - 49		50 and over	
	No.	%[b]	No.	%	No.	%	No.	%
Carleton	2	8	18	69	3	12	3	12
Guelph	1	7	8	57	3	21	2	14
Lakehead	3	30	3	30	4	40	0	0
McMaster	5	19	11	42	4	15	6	23
Ottawa	4	17	11	48	2	9	6	26
Queen's	8	24	16	48	4	12	5	15
Toronto	2	4	26	48	16	30	10	18
Waterloo	4	12	19	58	9	27	1	3
Western Ontario	19	39	22	45	6	12	2	4
Windsor	3	14	12	57	6	29	0	0
York	3	12	11	42	8	31	4	15
TOTAL	54	17	157	50	65	21	39	12

[a] Includes all economists holding teaching positions, as reported by individual departments. Departmental lists are inconsistent in regard to reporting visiting faculty, economists belonging to other divisions of the university, etc., but these inconsistencies seem unlikely to distort comparisons of age distributions seriously.

[b] Percentages may not add to 100 because of rounding errors.

There is, of course, no objective measure of faculty quality and research performance. It does seem worth reporting data recently published on the number of articles published by economists employed by Ontario universities in 35 major economics journals, from mid-1968 to mid-1972. The following list is drawn from a survey covering all universities in Canada represented by more than three articles:

University of Western Ontario	46
University of Toronto	42
Queen's University	22
McMaster University	11
University of Waterloo	11
Carleton University	10
York University	10
University of Ottawa	4
University of Guelph	3
University of Windsor	3

These figures are taken from M. Frankena and K. Bhatia, "Canadian Contributions to Economics Journals", Western Economic Journal, September, 1972. They must be used with caution, for at least two reasons. First, they give no weight to the (highly variable) relative importance of scholarly articles, or to other forms (notably books) in which scholarly contributions can appear. Second, they are on a total and not a per-economist basis; they thus do not represent the "average quality" of a department, although totals are not irrelevant to the economies of agglomeration in graduate teaching and research. In any case, the ranking they suggest is broadly consistent with that drawn from our general appraisals of the individual departments, discussed below.

(f) Degrees Awarded By Ontario Universities in Relation to Student Population.

The productivity of graduate programmes in economics should be judged in part by the proportion of students who succeed in earning the degrees for which they are registered. This yield percentage must be interpreted with great care, though, because it reflects many causal forces: the quality of the entering students, the quality of instruction, and the rigor of the institution's programme requirements and its standards for awarding degrees. The attached Table 13 shows the best estimates of degree yields that can be made from the data supplied to us.

Our data consist of student populations registered in various years from 1967/68 to 1971/72, and degrees awarded in those years. Candidates for the Ph.D. are always registered for at least two years, and M.A. candidates at some institutions may appear in the registration statistics for more than a single year. Hence it is impossible to calculate ratios of students admitted to degrees subsequently awarded, with any accuracy. In the case of M.A. candidates, the attached table assumes that students (except at Ottawa) are registered for a single year, and typically receive

Table 13.

Degrees Awarded by Ontario Universities in Relation to Student Populations

University	M.A. Degree[a/]		Ph.D. Degree	
	No lag	1-year lag	3-year lag[b/]	4-year lag[c/]
Carleton	0.17	0.23	0	n.a.
Guelph	0.50	0.60	n.a.	n.a.
Lakehead	0.04	0.06	n.a.	n.a.
McMaster	0.64	0.73	0	n.a.
Ottawa[d/]	0.22	0.20	0.20	0.30
Queen's	0.24	0.25	0.06	0.07
Toronto	0.73	0.76	0.06	0.06
Waterloo	0	0	n.a.	n.a.
Western Ontario	0.84	0.86	0.05	0.07
Windsor	0.41	0.67	n.a.	n.a.
York	0.28	n.a.	n.a.	n.a.

n.a. = not applicable

[a/]. Ratio of annual average degrees conferred, 1967-72, to annual average enrollment, 1967-72, in the column titled "No lag"; in the column headed "1-year lag," the ratio is of average degrees 1968-72 to average enrollment 1967-71.

[b/]. Ratio of annual average degrees conferred, 1969-72, to average enrollment in Ph.D. programme, 1967-72.

[c/]. Ratio of annual average degrees conferred, 1969-72, to average enrollment in Ph.D. programme, 1967-71.

[d/]. Ottawa's M.A. enrollment is largely part-time; hence we have assumed that the average Ottawa candidate remains in residence for two years. One-year residence has been assumed for all other schools; if that assumption is incorrect, their degree yields would be understated.

their degree either in that year or the subsequent year. If this assumption is correct, the degree yields would be the fractions shown in the first two columns. They are quite variable, and low yields seem to characterize both schools attracting poor-quality students and schools that have imposed an M.A. thesis requirement.

It is impossible from the available data to calculate meaningful yields for Ph.D. programmes. The figures given in the table are ratios of average degrees awarded in the years 1969-72 to average enrollment (full-time and part-time) in the programme for 1967-72, not students admitted. (Shorter spans of years were used for programmes that have not been in operation that long.) Students are probably in residence on average for about three years; if so, the figures given in the table for Queen's, Toronto, and Western would imply that about 20% of the students admitted to their Ph.D. programmes earn degrees three or four years later. If the three-year registration assumption is high, which it may be, the yield estimate of 20% is also high. The estimate may be biased downward, though, because the programmes are either new or have expanded rapidly over the period in question; they have not reached the "steady state" implied by the calculation of a 20% yield.

Despite the uncertainty surrounding the yield estimate for the three leading Ontario departments, it is useful to make a rough comparison to the yields achieved by the leading United States graduate schools. Data were secured for Harvard, Yale and the University of Chicago. Harvard and Yale both admit applicants for the Ph.D. directly from undergraduate degree programmes; their first-year students are comparable to M.A. students in the Canadian programmes, and the degree yields of their second-year classes are thus comparable to the yields estimated for Ontario Ph.D. admissions. Over several recent years Yale reported degree yields of 92% (on the assumption that students on the average get their degrees four years after first registration) or 95% (if they typically receive the degree five years after first registration). Comparable figures for Harvard are 76% and 71%. The University of Chicago's first-year class includes many students who do not continue beyond the M.A., and data on second-year enrollments were not available. The comparison of Chicago's first-year enrollments to degrees subsequently conferred indicates yield percentages of 31% or 33%, still higher than those reported by the Canadian universities.

The data that we have assembled are comparable between universities in only the roughest way. Nonetheless, they do suggest that the degree yields of Ontario Ph.D. programmes have been quite low relative to those of mature and high-quality programmes in the United States. Unless the training given to candidates who drop out of Ph.D. programmes has an economic value matching its cost--which it may--this performance raises a serious question about the social performance of Ontario's doctoral instruction.

A comment on the ABD status is relevant at this point. Since the total relative to Ph.D.'s completed is so large, it would appear, by comparison with the much lower rates prevalent in the leading U.S. graduate schools in economics, that the Ontario graduate departments are inefficient in having an unusually high "wastage" rate of accepted Ph.D. candidates.

However, there are several factors that help to explain the difference. First, in a period of rapid build-up of graduate work (or any other education process extended over a number of years) those completing a course represent the survivors of a far smaller initial entry than those currently entering who will complete the course in future. Second, andABD is not to be regarded simply as a "failed Ph.D." Table 9 shows that about a third of ABD's went on to doctoral fellowships in the first year after completing all other Ph.D. requirements, and those in universities and governments are frequently working part time to complete the dissertation. Even where the latter are not, or are working only haphazardly, the ABD qualification may meet their and their employers' needs adequately, and completion of the final step of dissertation submission add too little to the difference between ABD and M.A. qualifications to be worthwhile to either side in the job contract. Third, financial support for the third and fourth year of graduate work in the leading American graduate schools has until recently been lavishly available (this situation is changing rapidly under the financial pressure on the universities). The Canadian practice of taking employment on achieving ABD status may be socially more efficient in the sense that the student rather than his government or university bears most of the cost of preparing and writing the dissertation, and that the academic cost of this in terms of lower quality of training is not sufficient to outweigh the financial gains.

Nevertheless, the possibility of academic costs should not be overlooked. Such costs may take several forms: potentially promising researchers may be diverted by employment on the basis of ABD status into failure to deliver on their promise (and good researchers are made by prolonged experience, not by native talent); the disappearance of Ph.D. candidates from the campus at the dissertation-writing stage may deprive students at earlier stages of stimulus and a sense of purpose; and teaching staff may well become discouraged by the experience of putting in the effort required to bring graduate students up to the ABD stage only to have them disappear from campus and reappear, if at all, with a dissertation only long after the subject has lost its interest and urgency.

(g) Library Resources, Office and Teaching Space, and Computer Facilities.

We are grateful to the Library staff of Dalhousie for assistance in assessing the library resources of the Ontario universities offering graduate work in economics. This is a difficult task even for an expert; moreover, our assignment called for an evaluation of the library resources in the specific field of economics, a time-consuming task which we were unable to undertake. We reproduce in Table 14 a summary table prepared by Dr. Miller, and offer some comments on it.

Taking into account the need to balance quality against quantity of existing stock, with special regard to materials relevant to graduate teaching, and to assess present stocks in the light of acquisition rates for new materials, we arrived at the following rough grading of library facilities:

Table 14.

Library Resources, Ontario Universities

University	Total volumes	Economics					
		Monographs	Serials	Documents	Micro-films	Total holdings	Related titles
Carleton	424,149	7,991	176	2,800	7	10,974	5,374
Guelph	n.a.	4,688	94	9,702	n.a.	14,484	20,000
Lakehead	125,163	3,716	122	n.a.	n.a.	3,838	n.a.
McMaster	551,898	9,635	186	686	n.a.	10,507	30,000
Ottawa	468,082	9,040	n.a.	n.a.	n.a.	n.a.	n.a.
Queen's	703,503	24,722	476	n.a.	n.a.	n.a.	n.a.
Toronto [a]	3,125,640	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Waterloo	376,896	8,961	235	n.a.	9,196	18,392	3,639
Western Ontario	838,944	15,308	248	n.a.	n.a.	15,546	n.a.
Windsor	442,632	13,382	575	1,852	259	16,068	n.a.
York	491,292	14,282	379	n.a.	n.a.	14,661	n.a.

n.a. = not available

[a] From published information; no submission was received.

Excellent:	Toronto
A	Queen's, Western Ontario
A-	McMaster
B	Carleton, Ottawa, Windsor
B-	York (basically undergraduate, heavily dependent on outside resources)
C	Guelph, Waterloo (weak)
C-	Lakehead (inadequate)

These ratings need to be modified in the light of various considerations of geography. Thus Carleton and Ottawa students have ready access to the rich library resources of the capital city; students at York, and to a lesser extent Guelph and Waterloo, have access to the Toronto Library; and Windsor students have access to the libraries in Michigan. Thus only Lakehead students are seriously badly served.

We have no general statistics to offer on the questions of office and teaching space and computer facilities. On the latter, our general impression was that existing facilities were generally ample for the needs of present programmes; but that judgment might require substantial revision if Ph.D. programmes were initiated in institutions now offering only the M.A., or if present Ph.D. programmes were substantially expanded. Such expansion would also probably raise problems of office space and secretarial staff.

With respect to office space, the provision at Carleton, Guelph, Lakehead, McMaster, Ottawa, Windsor and York seemed to be adequate, or at least satisfactory enough in the opinions of the consultants and the department members with whom they spoke. We did not, however, go into such questions as the availability of suitable seminar rooms and large lecture halls, and the office and library space available for research students and research assistants. The former in our experience is likely to be something of a problem for small departments and the latter for large ones; but in evaluating them it is necessary to pay attention to the need to make efficient use of university space and avoid so far as possible creating facilities that are useful only on a few occasions per week during the academic year.

Of the four other universities, Queen's, and Western Ontario have been subject to serious constraints on available space but these will be greatly eased when their new social sciences complexes become available for occupancy. Waterloo has a serious space problem, jammed as the department is into a few offices and rooms at the rear of a building dominated by arts departments, but hopes that the university administration will allot it more space in the not-too-distant future. Toronto has the most serious space problem, in the sense of there being a problem with no readily conceivable remedy even in the long-term, short of a wholly new building or drastic renovation of the existing one. The total quantity of space is limited, and a number of staff are housed a considerable walking-distance away in the Institute for Policy Analysis. The interference of geographical dispersion with the establishment of a sense of departmental community is accentuated by the maintenance of separate facilities at Scarborough and Erindale and the unwieldiness of maintaining a joint department with Political Science. The effects of quantitative limitations on space available in the main departmental office block on St. George Street are exacerbated by the depressing nastiness of the office lay-out, which consists of two rows of offices, the inside row being windowless cubicles, stretched along a bleak corridor, with virtually no facilities for informal contacts among staff members or staff and students.

III. The Adequacy of the Present State of Graduate Work in Economics in Ontario.

This section follows closely the outline of paragraph C.2 of the consultants' terms of reference, except for the item "g. physical facilities," which has been discussed in sub-section (e) of the preceding section. The consultants, have, however, felt free to interpret the terms of reference rather more broadly than the tone of the paragraph containing those terms suggests, and in particular to discuss matters of university administration as well as departmental administration where it has seemed relevant to do so.

(a) Coverage of Divisions and Specialities and Extent of Activity in Each.

Considered as a group or system of economics departments offering graduate programmes, the Ontario universities in the consultants' judgment provide adequate coverage of the main fields of economics, and in some specialities exceptionally good coverage. Coverage of quantitative methods is good at all the Ph.D.-programme departments and in most of the M.A.-programme departments, the exceptions being Windsor and Lakehead. Macro-economics is generally well-covered, as indeed it should be given the primary emphasis attached to this subject in all the leading English-language graduate schools and its importance to public policy formation; the same judgment holds, though less comprehensively, for the more classical tradition of monetary theory, recently revived. Some of the M.A.-programme departments, notably Lakehead and Waterloo, however, are either weak in this subject or old-fashioned in their approach to it. The condition of the other branch of basic theory, micro-economics, is considerably less satisfactory, in terms both of quality of leading personnel and typical approach to teaching it. Specifically, there is a general scarcity of really good theorists and those available tend to concentrate either on a heavily mathematical approach or on rather obtruse and difficult theoretical issues raised by leading theorists in Britain and the United States, rather than on practically useable and relevant principles of analysis. There also appears to be a shortage of qualified experts in public finance, though this is largely a reflection of difficulties of recruitment from a very small international pool of qualified people.

On the other hand, there seems to be an excessive amount of staff resources and teaching devoted to two areas that do not on the face of it promise to contribute much to the knowledge of Canadian students, the benefit of Canadian society, and the development of academic economics in Ontario. These are economic development and development planning, and the economics of Soviet type economies and the techniques of central planning. Both are weak subjects academically, even though planning techniques require a rather high level of knowledge of computer technology; both are largely legacies from a by-gone period of international politics; and the emphasis on them (which is concentrated in a few M.A. programme departments of secondary average quality or less) reflects the national origins and political interests of a few staff members rather than the needs of Canadian students and the Canadian community or the comparative academic advantages of the universities concerned. This is not to say either that individuals interested in these areas should not be free to devote their own time to research, consulting, and foreign assignments in them; or that programmes of academic and educational value linked to a specified developing country such as the Western Ontario Ghana Project or the Windsor Guyana Project are not useful and worthwhile, but these interests should not dominate construction of degree programmes.

Beyond the specific fields discussed, there may be province-wide shortages or excess supplies of qualified specialists in lesser fields of economics. We have not had time to investigate this possibility; nor do we consider it a very serious problem, since most such specialists "double" in some main-line field and, if there is a need, faculty can be diverted into specialized fields. (As a result of the large-scale employment of economists in research for various Royal Commissions in the past two decades, Canadian economists have become much more versatile than they were in former times.)

(b) Faculty Quality and Quantity

In the context of graduate work in economics, faculty quality and quantity, especially quality, have to be assessed rather differently than in the case of undergraduate work. Various aspects of the quantity question have been discussed in the previous sub-section of this section and in the sub-section (d) of Section II (page A-43). To summarize briefly, aggregate faculty members appear to be adequate not merely for current graduate teaching commitments but for some expansion of graduate student numbers; there are, however, some deficiencies in numbers of qualified specialists in certain fields, most importantly micro-economics and public finance.

A major defect of the Ontario system at the graduate level in economics, and one from which many others flow, is the dispersion of graduate teaching effort among too many institutions with departments too small or insufficiently qualified to offer an M.A. or Ph.D. programme of internationally acceptable quality across-the-board, and with too small a through-put of students for the maintenance of consistent standards of examination and the establishment of a genuine ethos of concentrated graduate-level work.

This defect reflects the grafting of graduate instruction onto institutions that were started primarily for undergraduate teaching. Undergraduate education can be carried out effectively by relatively small departmental staffs, and it naturally calls for standards for the appointment and promotion of faculty members that emphasize teaching performance and service to the institution, with relatively little weight on research. On the other hand, continuous research performance of high quality is not only desirable per se but necessary for sustained effective performance in graduate (especially Ph.D.) teaching, and so research should play a greater role in appointment and promotion decisions in proportion to the role of graduate instruction in a department's activities. Many Ontario institutions are attempting to build graduate programmes on the basis of faculties selected by largely undergraduate criteria, or with these supplemented by a few "stars" lured with promises of departmental upgrading and the expansion of graduate instruction.

Thus, departments originally built for undergraduate instruction are inappropriately composed for graduate programmes and also too small in size.

In our deliberations on this point, we arrived at minimum student intakes of twelve for a one-year M.A. programme, and twenty for a Ph.D. programme, the higher figure for the Ph.D. programme reflecting a judgment that attainable economies of scale are more substantial at the Ph.D. level. We would stress that these notional minima are probably significantly underestimated; while some of the world-famous universities of the north-east coast of the United States admit somewhat fewer than 20 Ph.D. candidates per annum, their prestige enables them to take their pick of the world's first-class B.A.'s, in contrast to the B-average minimum standard commonly applied in Ontario, and to be sure that the vast majority of those admitted are both able and strongly-enough motivated to complete the Ph.D.

By these minimum standards, allowing for the planned building-up of the newly-initiated M.A. programmes at Waterloo and York, all the existing M.A. programmes are viable with the exception of Lakehead, which is just on the 12 mark but gets there on a very close balancing of acceptable applications and admissions, and Guelph, whose 8-10 reflect in part the success of the programme and in part the department's view of what it can handle given its heavy undergraduate teaching commitments. Taking into account relevant evidence on staff quality and course offerings, we judge that the Guelph programme is academically acceptable but that the Lakehead one is not. Nor do we see any compelling "regional" reason for justifying the maintenance of an M.A. programme at Lakehead.

The situation is far less satisfactory at the Ph.D. level. Carleton and Ottawa have enrollments too small to operate an efficient Ph.D. programme. Of the other four, only Toronto at present has the scale we deem necessary, though Queen's is reaching that stage. However, if the M.A. is interpreted as the first year of the Ph.D., the numerical picture is more satisfactory. Queen's and Western Ontario both show signs of staff discontent with their small through-puts of Ph.D. candidates; McMaster's small through-put is mitigated by its deliberate decision to confine its offerings to a limited number of fields in which it has assured competence.

Numbers alone, however, are not a sufficient basis for evaluation. We return to this point after discussing another defect of the Ontario system as it stands at present.

The second defect is a tendency to "pad out" both M.A. and Ph.D.

programme offerings with peripheral options, one consequence being that such courses are frequently offered as reading courses for which only a few students--sometimes none--enroll, and to rely excessively on the seminar at the Ph.D. level to carry the main burden of formal graduate instruction. This tendency reflects the interaction of a shortage of talent properly qualified to teach to an adequate graduate-level standard, with the belief that every reasonably qualified undergraduate teacher is capable of graduate-level teaching, or that whether he is or not he has a right to offer some kind of graduate course. It is also attractive to small departments burdened with heavy undergraduate teaching assignments and attempting to teach a small number of graduate students at minimum extra personal time cost.

The foregoing defects involve generalizations covering Ontario graduate economics education as a system. However, their seriousness varies greatly among the individual departments, the variation among departments depending on how far the senior men in the department, and the university administration behind them, are conscious of the adjustments that need to be made in the transition to developing an adequate graduate programme of internationally competitive standards, and willing to insist on making those adjustments. The key issues here are the determination to develop a definite programme tailored on the one hand to the requirements of adequacy at this level and on the other to the department's teaching strengths; and the willingness to stiffen promotion and tenure standards to what is required to guarantee sufficient staff quality to maintain appropriate standards of formal instruction, research, guidance, and examination of candidates.

From this point of view, evaluation of individual graduate departments requires drawing a sharp distinction between the quality of graduate programmes and the personnel involved in them, and the quality of individual members of a mixed undergraduate and graduate department. It is for this reason that, at the M.A. instruction level, we would rate Guelph considerably higher, and Waterloo and York rather lower, than they would rate on the objective evidence of individual staff quality, staff members, and programme requirements and offerings. Similarly, we would rate the Toronto department considerably lower at this level than the prestige of the University and the undoubted international distinction of a number of its staff would lead one to expect.

Turning to Ph.D. level programmes, we are faced with the problem in evaluating the largest department, Toronto, that it has until very recently been characterized by incredibly inefficient administration, very lax and inconsistent promotion and tenure practices virtually guaranteeing the lifetime academic security of anyone once hired, and a general atmosphere of anarchy; but that it has recently appointed a new and energetic chairman with a strong desire to rectify the sins of omission of the past as rapidly as possible and bring the standard of graduate work at Toronto up to what prevails elsewhere and what should have prevailed long since at Toronto, given its position as Ontario's largest and most prestigious university. Whether the effort can succeed or not depends on whether the sizeable but still minority group of recently-appointed economists of international reputation can prevail over the forces of tradition, which in turn depends in part on the implications of recent changes in the governance of the

University for the relationship between University and department.

The other five Ph.D.-programme departments all impressed the consultants as being well-managed and conscious of what they were doing and were capable of doing within their limitations. The economics consultants would rate Queen's and Western Ontario as about tied for the status of best department in the province; both, however, suffer the limitations of inadequate scale of Ph.D. through-put, and Western is as noted earlier "bottom-heavy" and has had some difficulty in retaining young appointees. McMaster has widely cut its coat according to its more modest supply of cloth. Carleton and Ottawa have too small a flow of Ph.D. candidates to be said to have more than a paper Ph.D. programme, but their chairmen and senior staff seem well aware of the problems involved and anxious to maintain standards.

(c) Nature of Programmes Offered, and Enrollment Size and Distribution Amongst Universities and Divisions

These two topics have been largely covered by the previous section and Chapter II.

As regards programmes offered, there is on the one hand an under-emphasis on micro-economic theory and an over-emphasis in some departments on economic development and central planning, and on the other hand an excessive reliance on peripheral option subjects at the M.A. level, and on peripheral options, small specialized reading courses, and seminars at the Ph.D. level. We note with approval a marked tendency to the extension of compulsory qualification in micro-economics, macro-economics, and mathematical and quantitative methods. We feel, however, that much more could and should be done to supplement this tendency by consolidation of peripheral optional courses into fewer but more broadly based options with a core more closely related to mainstream economics, and by replacement of seminars by formal instructional courses, also fewer in number and more broadly based.

As regards enrollment, aggregate current and prospective M.A. enrollment and production seems broadly appropriate within wide but negligibly socially costly margins of error. Current aggregate Ph.D. enrollment, with some modest expansion over the next decade, seems reasonable in the same sort of sense; but aggregate expansion on the scale arrived at by summing the expansion plans of the individual departments would generate a gross over-supply in relation to demand in a period when the rest of the English-speaking world is likely to be generating an excess supply as well, and therefore should be actively discouraged. The distribution of enrollment gives too many small departments uneconomically small shares in the total. Considerations of academic efficiency would argue for fewer graduate-work departments with larger enrollments at the M.A. and especially the Ph.D. level.

(d) Quality of Student Body: Admission Requirements

There is undoubtedly an excessively high proportion of mediocre students or worse enrolled in the graduate programmes of Ontario, at both the master's and the doctoral level. The evidence is both the relatively low completion rates at the M.A. level in the smaller and newer departments, and the low completion rates for the Ph.D., even making due allowance for the probability that ABD status suffices for most employers; and the dissatifaction with student quality and confession of past errors of leniency in admissions policy voiced to the consultants by members of many of the graduate-level departments. However, this evidence may be partly explained by the fact that performance at the B.A. level, good or bad, is by no means a reliable guide to prospective performance at the graduate level. On the other hand it may indicate that the pool of well-qualified candidates is too small to support a provincial graduate programme in economics on the present scale, let alone a substantially expanded one.

It would be naive, however, to attribute the presence of large numbers of mediocre students to unduly low standards, and still less to a deliberate lowering of standards in favour of foreign students. To do so is to misunderstand the nature of admission standards and to disregard the incentives to admissions officers both to keep standards as high as possible and to discriminate in favour of domestic as against foreign students. The key point is that the standard is a minimum standard and operates as such. Departments would prefer to have students of the highest possible quality, both to teach and to turn out as graduates. For this purpose, they would prefer to have large numbers of applicants for a limited number of places, and to select candidates by "counting down from the top" and filling the places with candidates where qualifications are well above the minimum. If the number and quality of applicants is not sufficient for this, they will cut off admissions at the minimum standard, though in this case they will tend to favour foreign students simply because their qualifications are far more difficult to assess accurately. In a multi-university system in which universities and their departments differ widely in quality or repute (the latter being a special problem for newly-established universities and/or graduate programmes), the marginal candidate admitted to the "best" departments will be well above the minimum standard, while the "worst" departments will have to content themselves with the applicants whose qualifications are at or above the minimum standards. Moreover, whereas the "worst" departments will be under pressure to bend the standards in favour of foreigners, the "best" universities will have an incentive to discriminate against foreigners in favour of domestic applicants whose later success will do them more visible and tangible credit, except to the extent that foreign applicants are well-qualified graduates of distinguished foreign universities with which the locally "best" university would like to demonstrate or reciprocate parity of esteem. In these circumstances, actual standards differ but nominal (minimum) standards are the same as between "best" and "worst" departments. Nor would it help, or at least help much, to lever up minimum standards to parity with the actual standards of the "best" universities, since to do so would probably deprive the "worst" universities of most or all of their students, including some well above the nominal minimum standard. It would be more appropriate, and less painful, to reduce the number of places available at the "worst" departments, and possibly expand the number available at the "best" departments, leaving it to the "worst" departments to ration out their reduced number of places by raising their actual standards. (A still better solution would be to charge fees to successful candidates proportional to the quality of instruction and the number of places provided in the different departments, and allow students to allocate themselves by free choice; but the change involved would be far beyond the bounds of present political possibility.)

The foregoing considerations strongly suggest that, if there is considered to be an excessive number of students of insufficient quality to warrant their support in graduate work at government or university expense, the proper line of attack is not to concentrate on the question of the level of admissions standards, and specifically on raising them, but to concentrate on the more fundamental issue of the number of places. A reduction in the number of places could be achieved in a variety of ways, of varying merit. The politically easiest but most inefficient academically would be to assign each existing programme to a pro-rata share in a fixed province-wide total of students. An alternative, superficially more appealing, version of this solution would be to assign each department one or more fields of graduate work in which to concentrate its teaching and research efforts (not necessarily confining each field to one university only), again subject to a centrally-determined total of student numbers, with the aggregate number centrally divided among fields. Either variant of this solution would freeze the pattern of graduate instruction and virtually rule out competition for excellence among departments. The allocation of fields-cum-quotas would also in all probability quickly lead to wide variations in actual admissions standards or to forcing students into choosing subjects to study that did not really appeal to them in order to obtain a place, or to both. Our central objection to either variant of a quota system, however, is that, used as a means of restricting total numbers, it would sacrifice the economies of scale that we believe to be so important in graduate work in economics. The straight quota system would prevent the attainment of the "critical mass" necessary for effective and economical teaching and the maintenance of adequate standards. The field-cum-quota system might attain the "critical mass" for teaching and research in the field or fields assigned to a department, but would do so at the expense of maintaining comparable standards of instruction and staff appointment across the various fields, eliminating or greatly reducing cross-fertilization among the fields, and forcing students into premature choice of field of specialization.

Our own judgment would strongly favour the contraction of numbers by the total elimination of the weaker programmes and the concentration of graduate work in a few, preferably larger-scale than at present, general graduate programmes. We recognize that this solution raises a number of cognate problems, especially the monopolistic power it would convey on Toronto as the largest existing graduate department, the difficulty of maintaining a proper degree of competition for excellence among graduate departments and freedom of student choice of department, and the establishment of appropriately stringent standards of qualification for teaching at the graduate level and an appropriate system of competition for the privilege between economists in graduate-teaching and in non-graduate teaching departments.

(e) Relationship to Related Disciplines

For most of its history as an academic discipline in Ontario universities, economics was taught in conjunction with political science under the general description of "political economy." As other social sciences developed, notably anthropology and sociology, they were incorporated in the political economy course; also, under the leadership of the Toronto department in the 1920s and 1930s, the economics specialty came to place heavy emphasis on economic history as a branch of economics.

In the post-war II period, and especially in the past fifteen years or so, however, there has been a strong trend towards separate departmentalization of the other social sciences, most importantly of political science, such that most (but not all) Ontario departments of economics are strictly economics departments (including economic history). This trend reflected on the one hand the increasing professionalization of the other social sciences, on the other hand, the increasing professionalization of economics and especially the rapid scientific progress then being made on the basis of the use of mathematics, statistics, and econometrics, techniques which gave economists more affinity with mathematics and statistics departments and computer centres than with the other, more philosophical/social and less quantitatively-oriented, social sciences. Relations between economics departments and other mathematically/statistically based departments are, so far as we have been able to ascertain, reasonably good. On the other hand, relations between economics and other social science departments tend to be distant and often slightly hostile -- the result of mutual recognition that economics is much more of a "hard science" and much less of a social and humanistic study than the others. Moreover, where economists and political scientists remain paired in the same department, as at Toronto, the result frequently seems to be sporadic friction of varying intensity between them and (from the point of view of economics) obstruction to the modernization of graduate programmes in economics and the establishment of sufficiently rigorous standards. (It is also our impression that the presence of a relatively large economic history group at Toronto has impeded the establishment of an adequate graduate programme in economics by the insistence of the economic historians on providing a less quantitatively-oriented programme for economic historians than is required of main-line economists; such insistence runs counter to the emphasis of contemporary economic historians, in the United States and in some British and Canadian universities, on the need for an econometric approach to economic history problems.)

In recent years, responding to a major shift in public opinion and in public policy concern, economists have become increasingly occupied with broader social problems such as urban problems, the environment, and "the quality of life," and this has led some of them to the belief that the concepts of economics need supplementation by the insights and techniques of the other social sciences, and to the recommendation of interdisciplinary courses at graduate level and interdisciplinary research projects. To some extent, this position may be a recurrence of an intellectual fad that has appeared occasionally before, notably for a period immediately after the second world war; and the experience of that experimental period and general observation suggest that disciplinary departmentalism and the discipline-oriented standards for academic advancement are extremely difficult to break through, quite apart from the question of the social and scientific gains that might be achieved by attempting to do so.

Nevertheless, there are economists of repute who believe that more interdisciplinary work and teaching is necessary; the case was put to the consultants most cogently during their visit to McMaster. We have our doubts as to the chances of success of such efforts, since they require both that the departments involved be of sufficient quality and the individuals concerned sufficiently willing to take the academic risks involved. We would not wish to discourage any efforts in this direction; but more important, we would not want to criticize the Ontario departments for concentrating their efforts on work within their own discipline rather than on attempting to develop interdisciplinary projects and programmes. On the contrary, we feel that at the present time more and not less concentration on work within the traditional scope of the discipline is desirable, if graduate work in economics in Ontario is to be raised to an appropriate standard.

(f) Other Matters

In concluding this chapter, we would emphasize the general point that the present situation is the outcome of a complex set of pressures. Rapid expansion of graduate work in economics has been superimposed on a rapid expansion of undergraduate education implemented largely through the establishment of new universities. This has taken place against the background of a university tradition primarily oriented on British lines towards undergraduate instruction and with corresponding standards of teaching and research performance as requirements for promotion and tenure, and a governmental commitment to underwrite most of the costs from the public purse rather than from charges imposed on those directly benefitting from the higher-level education provided. In such circumstances, the task of devising reforms at once effective and acceptable to the academic community and capable of being implemented by administrative action is incredibly difficult, and not solvable by either administrative gimmickry or vaguely defined undertakings to cooperate and coordinate.

IV. Assessments of Individual Universities

The consultants' terms of reference call for detailed appraisals of the departments offering graduate instruction in economics, as a basis for both recommending their appropraite future development and weighing the state of graduate education in economics for the Province as a whole. Specifically, we are to:

> Report on the adequacy of the present state of graduate work in economics in the province in general and in each university where applicable, discussing the following: coverage of divisions and specialties, and extent of activity in each; faculty quality and quantity; nature of programmes offered; enrolment size and distribution amongst universities and divisions; quality of student student body, admissions requirements; relationship to related disciplines; physical facilities; other matters considered by the consultants to be significant.

In this section, we outline for each department certain principal data that have influenced our appraisals, and present the evaluations that are summarized more briefly in Chapter IV. Our appraisals of course depended heavily on objective and specific data submitted by the departments; some of these are summarized in the tables of Chapter IV. The information recorded here was largely secured on our visits to the individual departments, and thus runs somewhat to subjective interpretations and assessments of qualitative factors, such as the effectiveness of a department's administrative arrangements. It is unfortunately impossible within a report of reasonable length to outline all the evidence that significantly influences our judgment, but we hope to indicate the principal items.

The following sections all follow a common outline, set forth here along with a description of the kinds of evidence we utilized under each heading.

1. Quantity and quality of faculty; coverage of fields. We studied the résumés submitted by the members of each department, paying particular attention to their professional training, research accomplishments, the extent and character of their professional interests and activities. In our visits we sought to meet representative members of each department and to gather such impressions as we could about their effectiveness as teachers and administrators. We drew on our past acquaintance with the published research of many department members, but were also forced to rely on more cursory evidence, such as publication in major scholarly journals and participation in "invited" professional activities. In many cases we also secured copies of reading lists and examination papers, which proved helpful both for assessing the quality of teaching and judging the content of graduate programmes. In appraising a department's strength in individual fields of economics, we employ several rough benchmarks. "International distinction" indicates a staff that includes a scholar or scholars with continuing research interests and achievements recognized (or becoming recognized) in the international community of economists. A department's

strength is "adequate" if it includes senior scholars with some worthy research accomplishments and continuing professional interests, and/or assistant professors who are starting to publish in the leading professional journals; "adequate" strength also requires the presentation of graduate courses in suitable number and quality. Because of the different skills required, a department's strength can be "adequate" for M.A. but not Ph.D. instruction, or for an undergraduate but not a graduate programme.

2. Structure and content of graduate programmes. Some departments provided us with written summaries of the content and regulations of their graduate programmes. We secured this information from others during our visits, and sought additional background on how the programmes have been modified and administered in practice.

3. Quantity and quality of the student body, admissions requirements; subsequent performance. In our visits we supplemented objective data on enrolments and degrees granted with information on admissions standards, performance of students in the programmes, and the quality of jobs subsequently secured by the students.

4. Environmental influences on graduate teaching and research:

(a) Departmental administration;

(b) Responsibilities for undergraduate instruction;

(c) Auxiliary research facilities, such as library and computing equipment;

(d) Offices and related physical accommodations;

(e) Relations to other departments and university administration.

Information on these matters was mostly secured via our visits to universities, through interviews with department chairmen, deans, librarians, etc. We report on these matters below only when they carry unusual positive or negative values in our assessments.

Carleton University

1. Carleton's economics staff, like most others in the Province, has grown rapidly in recent years. Efforts have been made to build strength in the areas of policy theory and practice stressed in the Ph.D. programme, but this has been only partially successful. The department does not rise to international distinction in any areas, although it is certainly adequate for Ph.D. level instruction in the policy-oriented areas of industrial organization, urban economics, money, and public finance. We feel that it is probably not adequate for Ph.D. instruction in economic theory and quantitative methods; at least, it should not encourage Ph.D. thesis

specialization in these fields. Recognizing these problems, the department has indicated an intention to concentrate its Ph.D. instruction in economic theory, quantitative methods, international trade, public finance, money, and industrial organization. The department's strength is quite adequate for instruction at the M.A. level. Its extensive involvement in research on questions of Canadian economic policy is consistent with the emphasis of its graduate programmes.

2. The M.A. programme is a relatively rigorous one, requiring four half-courses in economic theory (micro, macro, welfare, and growth and stabilization) and either one course plus a thesis or three other courses. Statistics and calculus are required prerequisites. The Ph.D. programme, which began in 1968-69, requires an additional year of course work, including a course in the theory of economic policy and two half-courses in statistics. Students are required to take part in workshops covering quantitative methods, money and trade, economic organization and development, economic history, public economics, and management science. The requirement of an outside examiner on Ph.D. theses provides a useful quality control. The focus of the graduate programmes has been on public policy in Canada and the economic analysis appropriate to public policy. This focus is sound given the location of the university and the interests of its potential students, especially in the M.A. programme. The form and content of the department's graduate programmes are thus reasonable and make appropriate use of the university's resources.

3. The department indicates that the demand for its full-time M.A. programme has been greater than was expected a few years ago, demand for its Ph.D. programme less than anticipated. It currently seeks about 25 full-time M.A. candidates, a smaller number of part-time students. The drop-out rate from the programme has been quite high, reflecting (at least in part) the department's policy of accepting students with unconventional backgrounds but requiring a relatively high level of performance. M.A. recipients have been placed with relatively little difficulty, mostly in government. It seems clear that an adequate demand exists for the M.A. programme, in quantity and quality of applicants. The Ph.D. programme is too new to permit an appraisal of the quality of its output. The department feels that a minority of the candidates have been of better than marginal quality. The number of applicants has been less than expected. Admissions standards for both programmes are technically adequate, but only for the M.A. has the department secured a group of candidates of size and quality sufficient for an effective programme.

4. The department appears to run its programmes and administer its affairs with harmony and efficiency, and efforts to build through outside recruitment have been energetic if not highly successful. The department enjoys a complementary relation with certain other parts of the university, such as the School of International Affairs, School of Public Administration, and Institute of Canadian Studies. On the other hand, its administrative responsibility for the School of Commerce has apparently been a burden. Otherwise, its undergraduate teaching obligations are reasonable. The Carleton library facilities are beneath the requirements of a major graduate programme, but libraries in the Ottawa area generally

are more than adequate. Carleton's administration has apparently given broad support to the department, making positions available for rapid expansion. Certain stumbling blocks have persisted, however, such as university rules for scholarship eligibility that give heavy weight to a graduate student's undergraduate record rather than his current level of performance.

University of Guelph

1. The department's members are quite young, on average, with only one-third holding tenured positions. Although its growth has not been more rapid than others, turnover has been very high and thus most faculty members are comparative newcomers. A relatively large proportion have not completed Ph.D. degrees. The department is easily adequate for offering M.A. level instruction in labour/human resources, economic history, and public finance. Its adequacy in other branches of economics rests on assistant professors whose qualifications remain to be established.

2. Only the M.A. programme is offered or proposed, although the department provides some service to the new Ph.D. programme in agricultural economics. The economics M.A. candidate can undertake either a thesis and four half-courses or a research paper and six half-courses (the latter option being the usual one). The courses must include micro and macro theory, and a make-up course in quantitative methods if the student lacks undergraduate preparation in calculus and statistics. Because of the small size of the M.A. programme, many graduate courses are in effect offered as reading courses; the principal exceptions are macro and micro theory, welfare economics (taken by agricultural economics students), public finance, and economic history. The student's work on his M.A. paper is supervised and approved by a single faculty member.

3. The department's present target intake of M.A. applicants is eight to ten annually. A B average is required, and students needing a qualifying year are discouraged. The admissions target, limited by the number of students the department feels it can handle, now just about matches the number of "acceptable" applications received. Early mistakes were made in the easy acceptance of foreign students, but this policy has been revised. The attrition rate from the programme has not been unduly high. Four of eleven M.A.'s have gone on to study for the Ph.D., and the others have found jobs without difficulty. Thus the student inputs and outputs of the programme both seem satisfactory. Financial support has depended perilously on the use of teaching assistantships, and the department is properly concerned with finding procedures to make effective use of untried M.A. candidates for this purpose.

4. The department now is capably administered, and seems to be an effective organization. This status is, however, quite a recent achievement. Its future development will depend heavily on adherence to reasonably high standards for advancement to tenured ranks; fortunately, both the department and the university administration require some involvement in research activities, as well as qualifications bearing on teaching and university service. A relatively heavy undergraduate teaching load helps to explain the department's preference for a small graduate programme. Service courses provided to the M.A. and Ph.D. programmes in agricultural economics impose no important costs; it may prove efficient over the years for the department to recruit faculty with interests complementary to those of the agricultural economics group. The university administration supports a continuing moderate expansion of the department, but holds it to a fairly high student-faculty ratio.

Lakehead University

1. On the basis of scholarly achievements, the Lakehead department would be adequate for instruction at the M.A. level only in the field of economic development. An examination of course outlines and examinations did suggest, however, that instruction is probably adequate in the field of economic theory. The small number of members would in any case limit the department's capability for graduate teaching. Most department members seem to have some interest in research, but usually of an applied and consultative variety not leading to publication in major scholarly outlets.

2. Like most schools, Lakehead offers the M.A. pro forma with both thesis and nonthesis options. The number of graduate courses, however, has been inadequate for students to elect the nonthesis option. In the past, courses have been regularly offered only in micro theory, economic growth, and economic development. For 1972-73, macroeconomics and labour economics are being added. The graduate programme aims to specialize in economic development and in regional economics (especially the economic problems of the Northwestern Ontario region). The former specialty reflects the interests of the department's leading members: the latter represents a generalized interest and is not strongly backed. An outside examiner is employed on M.A. theses.

3. Enrollment in the M.A. programme since 1967-68 has risen to twelve, but only one degree has been awarded; several M.A. theses are in progress, but completion has been quite slow. Minimum requirement for admission is a B average; apparently most students have been admitted without honours degrees, so a qualifying year has been normal. Applications have come mainly from foreign students and Lakehead undergraduates, with some demand from local residents seeking to shift their careers. Graduate student support has depended on research assistantships. The department feels that there is some potential local demand for its M.A.'s, but this has not materialized. Placements are, of course, too limited to permit judging the programme on that basis. Because the programme has been constrained by the number of qualified applicants, because the completion rate has been poor, and because the faculty's competence and resources for the programme are quite limited, we entertain serious doubts about its worth.

4. The department is in need of senior leadership. A solid undergraduate programme has been built, but high turnover and heterogeneous origins have limited the department's effectiveness overall. Promotion and tenure decisions are in effect made outside the department, and the standards appear to be those appropriate to an undergraduate institution. The university's library facilities seem suitable only for undergraduate instruction, and the relatively strong parts of the university are not notably complementary to economics. The number of undergraduate majors is quite small, although the department carries a normal burden of service instruction for non-majors.

McMaster University

1. It is useful to note that McMaster offers Ph.D. specialization in only four fields--quantitative economics, international economics, monetary economics, and public finance. Its strength is adequate in the first three of these but slightly below "adequate" in public finance, due to the lack of a senior scholar of distinction whose interests cover the span of that field. The department's strength in economic theory would also count as adequate. In other fields the faculty is by and large adequate to offer instruction at the M.A. level, but no more. It is blessed with a relatively strong group of assistant professors, many of whom are beginning to publish in major journals.

2. The department offers a conventional M.A. programme, and a Ph.D. programme that is generally reasonable in its requirements except possibly in the low minimum sophistication required in statistical methods. Graduate courses given by the department are appropriate in light of the overall graduate programme, and we gained a favourable impression of their content from inspection of reading lists and examinations. A commendable effort is being made to develop workshop-seminars. The group of fields in which McMaster offers Ph.D. instruction is a coherent one, but nonetheless narrow. The fields of interest for Ph.D. candidates, even after they have completed the M.A., are not always well defined, and a limited-fields Ph.D. programme fails to exploit one of the dimensions of scale economies in doctoral instruction. The plan also guarantees that the burden of thesis supervision will fall on a very few individuals; this tends to happen even in more broadly based departments.

3. Admissions requirements are adequate for both degrees--in the case of the Ph.D. a II.1 in U.K. terms or B+ average in North American parlance. McMaster M.A.'s are held to a B+ average and B minimum for entering the Ph.D. programme. The Ph.D. programme is too new (1969-70) to judge it on the basis of students' subsequent performance; some ABD students are now in federal government employment. Students graduating from the long-established M.A. programme have apparently been placed without difficulty. The Ph.D. programme's scale in effect seems limited by the pool of qualified applicants. The department would be capable of handling its indicated target of 40 M.A. and 30 Ph.D. candidates in residence. It is not clear that foreign Ph.D. applicants have been screened adequately, especially at the start.

4. Considering that the department has grown rapidly, its cohesion seems relatively high and its internal organization effective. Administration of its graduate programme has apparently been efficient and conscientious. The department is interested in developing interdisciplinary programmes and instruction at the graduate level; it is not clear that McMaster's other social science departments are of a quality to provide suitable collaborators. Research facilities (computer and smaller machines) available to the department are good; perhaps because of its newness, however, the department's members do not seem to interact much with each other in their research, or to have developed projects involving the graduate students. Administration support for the department has been notably strong.

University of Ottawa

1. The department is clearly adequate for instruction at the Ph.D. level in some fields--theory, econometrics, operations research, and economic history--and adequate for M.A. instruction in others, such as development, trade, money, and labour. It has augmented its resources with distinguished visitors imported for the summer trimester. The department is better balanced in age composition than many in the province. In the past the university may have depended excessively for faculty on retired or resigned civil servants, but this practice appears to be changing.

2. The M.A. programme is a conventional one with relatively light requirements, involving either four courses for a degree without thesis, or two courses plus a thesis. Half-courses in micro and macro theory are required. A comprehensive examination is required. The Ph.D. programme is operated at a very small scale. Course offerings are generally suitable to this set of graduate programmes.

3. Most students in the M.A. programme are from the Province of Quebec and hold undergraduate degrees from Ottawa. Admissions standards have apparently undergone some tightening. Recipients of M.A. degrees generally go into government employment, and have been placed without difficulty. The number of degrees awarded seems small relative to the number of students enrolled, and suggests a high rate of attrition. The Ph.D. programme has graduated only two students, and so its quality cannot be tested on the basis of results. All ABD's have been placed in government employment. The department's resources are clearly somewhat thin to offer the Ph.D. degree, and so it is reassuring that admissions are kept to a low level and to fields in which the department feels competent.

4. The department seems to be quite effectively chaired and to manage its business efficiently. Recommendations for tenure--originating only informally within the department--require performance in research and publication, and outside appraisals of the nominee's qualifications are required. The university appears committed to improving the quality of graduate work in economics, recognizing that its quality has been uneven. An important collaboration takes place with the Faculty of Management Sciences in the new Mathematical Economics-Econometrics-Operations Research Ph.D. profile. An important feature of the University of Ottawa generally is its bilingual status. The bilingual requirement makes the recruitment of faculty members more difficult, but also raises its importance in view of Canada's two official languages.

Queen's University

1. The department has expanded in recent years, but maintains a good balance of young and mature scholars. It can lay claim to international distinction in the fields of economic theory, macroeconomics, public finance, and perhaps international trade, and is at least adequate in the other fields of specialization in which comprehensive examinations for the Ph.D. are offered. Good use has been made recently of regular summer appointments for distinguished scholars from other universities. Most professors and associate professors have published in internationally recognized outlets, and seem to retain a continuing interest in research activities. Assistant professors have been recruited with care, and many of the group currently employed appear quite promising.

2. The M.A. programme offers three options:

(a) three courses plus a thesis;

(b) four courses (including one micro, one-half macro, one-half statistics) plus a master's essay;

(c) four courses (same requirements for coverage, plus two fields of specialization) followed by a master's oral. The third option is recommended for those continuing to the Ph.D. degree. The doctorate demands an additional half-course in economic theory, preparation in two fields of specialization (one and one-half courses each), participation in a workshop, and submission of a thesis supervised by a two- or three-man committee. Comprehensive exams in theory and two fields must be taken at one time. Proficiency in calculus and linear algebra must be shown. The structure of graduate courses is appropriate to these degree programmes, and a review of course reading lists and examinations suggests that they match prevailing international standards. Seminars are being consolidated into three broad workshops, to achieve a critical mass of participants.

3. The general standard for admission to the M.A. programme is an honours B.A. with a high B average. About 15 percent of students admitted to both M.A. and Ph.D. programmes come from outside of Canada, and a relatively high proportion (44 percent) are drawn from schools outside of Ontario. The entering M.A. and Ph.D. classes are constrained in size not by quality of applicants but by the department's resources and available scholarship funds. Completion rates for both M.A. and Ph.D. candidates appear somewhat low, but they reflect slowness in finishing theses rather than overt drop-outs from the programme. Queen's students seem to have secured an unusually large number of Canada Council and Ontario Graduate Fellowships. University scholarship supplementation also appears relatively generous, and there has been little resort to the use of teaching fellowships. Evidence on the subsequent performance of degree recipients is favourable. One-half to two-thirds of the M.A. holders go on to the Ph.D. degree, and others have readily found government and business employment. Three-fourths of Queen's Ph.D. holders have taken academic employment; 33 percent of these are outside of Ontario, and 12 percent in other countries.

4. The department has been well administered for some time and gives the impression of being unusually effective in managing its affairs. Recommendations for promotion to tenure are reviewed closely by an ad hoc committee within the department, with respect to research and teaching performance; outright terminations have been few, but in fact only about half of the assistant professors have been advanced to tenure. (The university places more weight on the promotion to professorial rank than the promotion to tenured associate professor, but the department does not make this error in priorities.) Common research facilities of the department are good; the Industrial Relations Centre proves useful to both students and faculty. Office space will be adequate when the department moves into the new Social Science complex. The department's undergraduate base is expected to grow only slowly; faculty resources are ample to staff both it and the graduate programme. The department's size is not expected to grow much.

University of Toronto

1. The group of economists at Toronto is exceptionally large, diverse and diffused over three campuses (St. George, Erindale, Scarborough) and into the School of Business Administration. It underwent substantial expansion in the past decade, but is not unbalanced toward younger scholars as are others in the province. The faculty's quality is quite variable and on the average disappointing compared to the international prestige generally accorded the university. Its claim to international distinction is due in large part to appointments made in recent years, and the department's deficiencies rest on a long tradition of unsuitably lax standards for promotion to tenured ranks. Toronto achieves international distinction in some measure in economic history, public finance, international trade, and industrial organization. It is probably competent to offer instruction at the Ph.D. level in several other standard fields, and can claim strength in a number of areas that are usually thought peripheral but useful in graduate instruction programmes. Somewhat more care has been devoted recently to recruiting assistant professors, but the Toronto group does not excel those at several other universities in the province.

2. The programme requirements for both M.A. and Ph.D. degrees have recently undergone extensive changes. The M.A. now requires half-courses in micro and macro theory and three other full courses (no thesis). A review or remedial course in mathematics and statistics is to be offered to all entering students not exempted. Ph.D. candidates take four more courses, including a course in econometrics, three more half-courses in theory, a course in economic history or the history of economic thought, and a workshop or research course. The comprehensive examination covers economic theory and two other fields, and must be completed by the second attempt. Recent changes have differentiated the requirements for the M.A. and Ph.D. in economic history from those in economics, with the historians requiring less sophistication in economic theory and quantitative methods. The arrangement of graduate courses in economic theory is now quite attractive, with the M.A. courses stressing problem-solving facility and the Ph.D. courses more depth of exposure to the subject. An unusually wide range of graduate courses is offered. Although desirable per se, this varied array gives rise to some doubts about the department's control over the quality of these offerings.

3. Admission to the M.A. programme requires an honours undergraduate degree with an average in the upper B range. Ph.D. applicants must have received at least B+ in every graduate course taken for the M.A. (or equivalent at other graduate schools). The applicant pool has been improving and is now of relatively large size and good quality. Foreign applications are held to a standard at least as high as Canadian; the proportion of full-time students holding Canadian first degrees has been 60-65 percent recently, more for part-time students. For 1972-73 one-fourth of Ph.D. applicants hold Ontario M.A.'s, one-fourth M.A.'s from abroad, one-half from elsewhere in Canada. The drop-out rate from the M.A. programme appears about normal, but (as with other Ontario departments) the rate of completion of Ph.D.'s seems quite low in comparison with leading U.S. departments. Fellowship support has been adequate in the past, with heavy reliance on Canada Council and Ontario Graduate Fellowships; university rules have, however, impaired the department's competitive flexibility in offering fellowships. Recipients of terminal M.A.'s have apparently found jobs

[illegible]hout difficulty. The bulk of Ph.D. recipients have gone to government or the Ontario universities; only in the last year or two have Toronto's best students been competitive with other top students in the North American market.

4. The department now enjoys an effective chairman, and its internal organization is being set straight. For a long time, however, the department (and the University) operated in a notably haphazard way. Slackness in imposing standards of scholarly performance as a condition for permanent appointment has extracted the greatest long-run cost. A substantial portion of the department would not seem qualified to instruct beyond the undergraduate or M.A. level, and even now standards for tenure may be below those of several other universities in the province. At the very least, this situation raises a serious problem of "quality control" for the department's graduate programmes. Physical facilities are inadequate in amount, and the principal building is laid out in a way that discourages interaction among department members and with students. Another administrative drawback lies in the cumbersome joint department with political science; only recently has this organization yielded any specific advantage in the form of collaborative courses in public policy. (The Department proposes in its plans for the future to capitalize on this alliance with political science by introducing M.A. and Ph.D. programmes in Applied Economics and Public Policy. We approve these programmes, which largely repackage existing options and entail no important expansion of teaching activities.)

On the other hand, the university's library and computer facilities are outstanding. The Institute of Policy Analysis has provided an outstanding opportunity for department members oriented toward quantitative research to develop their interests, and has been a great benefit to Ph.D. candidates; unfortunately, it is housed separately from the rest of the department.

The need to staff separate campuses at Erindale and Scarborough poses a problem but also provides certain opportunities for the department. Plans call for staffing them on rotation from the St. George campus.

University of Waterloo

1. This department has been developed recently by means of distinguished visitors on short-term appointments and a few permanent appointments of international "star" calibre. Thus it can claim international distinction in mathematical economics and international trade, and seems competent to offer instruction at the M.A. level in several other fields. It also includes, however, members of only routine competence. Its appraisal is rendered particularly difficult by the lack of department members having both the intellectual weight and continuity of service necessary to build an institution; one cannot predict what assets it might manage to acquire--or lose--within the near future.

2. The M.A. programme is only in its second year, and is not well settled even in its basic requirements. Students now must take eight half-courses (including term-courses in micro and macro theory) and complete a term paper or project acceptable to the department; formerly a thesis was required, besides the four courses. Course outlines and examinations suggest that courses are pitched at a reasonable level but not always balanced or up to date. Optional courses cover a wide variety of subjects--too wide, perhaps relative to the department's competence. The department proposes to offer a Ph.D. programme in interregional and international economics. It would require (including the M.A. level) three full courses in theory, three full courses in interregional and international trade, and three more full courses (chosen from a list that in effect requires specializations in econometrics/mathematical economics and public finance). We find it difficult to believe that a substantial market exists for a Ph.D. degree so tightly and specifically circumscribed in its course requirements.

3. In the first year of the M.A. programme (1971-72), admission standards were stretched in order to secure a class of adequate size. Department members claim that for 1972-73 it was possible to adhere to a B average with adequate preparation in calculus and statistics; the pro-proportion of applications accepted, however was relatively high. Experience with the placement of M.A.'s is too limited to support any judgment other than that provincial and federal governments will provide the main market.

4. Waterloo possesses outstanding computer facilities and some complementary strength in economists located in other schools and departments. Of particular importance is the Ph.D. programme in Mathematical Economics, Econometrics, and Operations Research, which is allegedly attracting students of quite high quality. Economists are found in the Management Science and Systems Design groups in the School of Engineering, in the Faculty of Mathematics, the Urban and Regional Planning group, etc.; no attempt has been made to pull these resources together, although the Waterloo administration avows an interest on their part in the economics department, and promises integrative efforts. Space available to the department is inadequate, but an improvement is promised. The base of undergraduate majors is unusually small, and the undergraduate programme consists mostly of service courses for students majoring in other subjects. The department has been supported strongly by the administration, which gives a high priority in the commitment of funds to its future development.

University of Western Ontario

1. This department was built up extensively over the 1960's by means of intensive and selective search through the market for new Ph.D.'s. It can lay some claim to international distinction in the fields of international trade, econometrics, and macroeconomics, and is competent to offer Ph.D. instruction in theory, economic history, development, and human resources. It has had some difficulty securing and keeping senior economists and the department is widely agreed to be "bottom heavy" with assistant professors. This group is variable in quality but contains a number of promising scholars who are starting to publish in the major journals.

2. The M.A. without a thesis requires four courses, including courses in micro and macro theory, demonstration of proficiency in statistics, and passage of a comprehensive oral examination. The Ph.D. requires an additional year of course work, including one course in econometrics and preparation in two fields of specialization. Written and oral examinations are required in economic theory, separate written examinations in the fields of specialization; the most popular fields for specialization have been money, trade, public finance, and industrial organization. The courses offered appear quite reasonably attuned to the requirements of the programme. The department has sought to develop active workshops in trade, money, development, econometrics, labour, and applied microeconomics. Special courses in computer use and a mathematics refresher are offered to incoming students.

3. Most applicants who are accepted hold a B average in an honours degree. In 1971-72 the department accepted 193 of 314 applicants, but the 46 actually enrolled were drawn mostly from the select 68 who were offered departmental financial assistance. Canadians accounted for 78 percent of candidates actually admitted and 64 percent of those accepted. Western, like Ontario's other leading departments, has experienced a significant increase in the quality of its students, especially at the Ph.D. level (where the drop-out rate has declined sharply). The rate of completion of M.A. programmes has been quite good. The Ph.D. completion rate is low compared to leading U.S. schools. For fellowships the department has relied heavily on teaching fellowships and governmental sources such as CIDA. M.A.'s, ABD's, and completed Ph.D.'s have all been placed without serious difficulty. The distribution of jobs taken by Ph.D. recipients and ABD's resembles those for Queen's and Toronto: the Ph.D.'s mostly in university teaching, and mostly in Ontario; the ABD's mostly in government or colleges.

4. The department was chaired with notable effectiveness during the 1960's, and continues to operate quite efficiently. Its morale, however, has suffered recently from an inadequate number of established senior members to provide cohesion and intellectual leadership. The undergraduate teaching load is a fairly heavy one, but the department seems large enough to meet all its commitments. An unusually high standard of research performance has been held as a condition for tenure, and determined use has been made of outside appraisals. As a result, the assistant professors have been highly productive (if not always highly content), and turnover has been significant. The department is more active than others in group research and high quality research projects oriented toward Canadian public policy; this orientation has clearly benefitted its Ph.D. candidates. Its Ghana project currently

provides for extensive faculty involvement in economic development. Like Queen's, Western has made effective use of distinguished short-term visitors. Space is currently tight but will become adequate; computer facilities are good. The university has provided the department the financial support necessary for its active growth.

University of Windsor

1. This department has doubled in size during the past five years. It would be adequate to offer Ph.D. instruction in economic development and area studies (Latin America and Eastern Europe)--although it rightly does not regard area studies as a prospective field of Ph.D. specialization. It is adequate to offer M.A.-level instruction in several other fields--trade, theory, and especially human resources. Most tenured faculty seem to retain some interest in research, although often of a highly applied sort. Nontenured members of the department do not seem to be of outstanding quality.

2. The M.A. programme offers two options: three courses plus a thesis; or four courses plus a paper (which need not involve substantial original research). Half-courses in micro and macro theory are required, and an undergraduate statistics course is a prerequisite for admission. Theses are guided and appraised by a supervisor and two readers (one outside the department). A comprehensive oral examination in economic theory is required. Details of the department's proposed Ph.D. programme were not submitted for review. The department lists fifteen graduate courses, of which about two-thirds are offered in a given year. These are referred to as "seminars" and vary in the degree to which they provide basic expository surveys. Most standard topics are covered, but with concentration in human resources and economic development.

3. Admission to the M.A. programme requires a B average with marks of B or better in economics courses. For 1972-73, 24 of 56 applicants were admitted--including 9 for a qualifying year. Most applicants have been from Ontario schools--about half from Windsor's own undergraduates; some Guyanese students have been admitted through the department's CIDA project in Guyana. The completion rate for M.A.'s has been relatively low, but it has not been difficult to place completed M.A.'s. The demand for them is not particularly localized to Windsor. Fellowship support has depended heavily on teaching fellowships (for sections of the introductory economics course) and research assistantships (the Guyana project).

4. The department has been free from high turnover in the chairmanship, and seems to be organized effectively. It devotes abundant and conscientious effort to its undergraduate programme, which seems to be of high quality, and attracts a number of honours concentrators. Standards for promotion to tenured ranks (within both the department and the university) give substantial weight to teaching and to university and community service; they thus may be more appropriate to an undergraduate institution than to one aspiring to Ph.D. instruction. Faculty members' research interests are closely interrelated through the fields of development and human resources, and the Guyana project has apparently been of benefit to the M.A. candidates. The university's library resources are modest, but it has access to Detroit-area libraries.

York University

1. Appraisal of the quality of the York department is rendered particularly difficult because many economists hold appointments partly or wholly in other administrative units (such as Faculty of Administrative Studies) or physically distinct campuses, and thus are not fully available to take part in graduate instruction. Furthermore, the permanence of certain distinguished senior appointments is in some doubt. Subject to these qualifications, the department's strength would easily be adequate for Ph.D.-level instruction in economic policy and planning (notably national economic planning and transportation), and probably adequate in international trade and economic theory. It is certainly adequate for M.A.-level instruction in other fields such as labour, money, quantitative methods, economic development, and public finance. The younger members of the department are of rather modest quality, although a few appear promising.

2. The M.A. programme requires four and one-half courses, including full courses in micro theory, macro theory, and quantitative methods. A thesis can be presented in lieu of comprehensive examinations. A two-year M.A. is also offered, involving specialization in economic planning. The department also proposes a Ph.D. programme that would require the completion of eight courses and the demonstration of competence in economic theory and methodology, quantitative methods, two other fields (one ordinarily "economic structure, policy and planning"), and a field to be selected from another social science. The field of economic structure, policy and planning would consist of one required subfield in theory and methods of policy and planning and another subfield chosen from options in "comparative organizational designs" (i.e. national planning methods and approaches) and "sectors and regions in planning." This programme would indeed be distinctive, but the primacy of the university teaching market for Ph.D.'s in economics generates some doubt about the department's faith in a large market for a Ph.D. specialized in the study and implementation of planning techniques. The programme would ordinarily require three years of full-time residence. A journal article would be the typical form of the completed Ph.D. thesis.

3. A B average is required for admission to the M.A. programme, though an offer of fellowship money requires a B+ average. The programme is quite new, and so meaningful conclusions about student quality, completion rates, and subsequent performance are difficult to draw.

4. The department gives the impression of being quite heterogeneous and fragmented, a natural consequence of the operation of separate campuses and the use of the "star" system as a strategy for building the department. The Faculty of Administrative Studies contains several economists whose abilities complement those of the economics department. Library facilities are supplemented by good access to inter-library loans.

CHAPTER V

RECOMMENDATIONS

Our terms of reference require us in general to "make recommendations for the development of graduate work in economics in Ontario between 1973 and 1983, but in more detail for 1973 through 1978" and also to deal with a number of specific points. The latter divide up into two specifically quantitative recommendations (C.3(b) and (d), desirable provincial enrollments year by year and then distribution amongst the universities in terms of ranges of enrollment) and a number of issues not necessarily closely connected with the quantitative exercise, specifically desirable programmes, distribution of responsibilities for programmes among universities and possibilities of collaboration and facilities-sharing, desirable extent of involvement with related disciplines, and alternative allocation systems for influencing the amount and distribution of graduate work in Ontario (which we interpret to refer to student numbers and distribution, not staff or government finance). In addition, we are empowered to recommend appraisals of particular programmes by the Appraisals Committee, and to judge in cases of excess provision of adequate programmes which should be curtailed or eliminated.

In preparing our recommendations, we have found it necessary, largely due to technical difficulties in keeping the macro-economic and micro-economic phases of our work in step with one another, to divide this chapter into a general section and the set of quantitative recommendations stipulated.

I. General Recommendations

(a) Introductory Remarks

In the main body of the Report, we have stated various general principles and argued various specific issues in detail in order to indicate the philosophy underlying our evaluation of the Ontario system of graduate training in economics. In particular, we have stressed that the market for trained graduates is at least national at the M.A. level, and international at the Ph.D. level, on both the supply and the demand sides of the market, so that it would be misguided to attempt to aim at a close balancing of numbers trained in the Province's economics departments and numbers required in the Province. (It would be still more misguided to attempt to balance Provincial supplies with Provincial demands for sub-specializations within economics). We have also emphasized that the costs of errors in forecasting demands and planning supplies to match are unlikely to be very serious, though this is truer at the M.A. than at the Ph.D. level. And we have given a number of indications of what a good M.A. or Ph.D. programme should be, in terms of staff quality and course offerings.

We take the view that the problems posed by the M.A. programmes are of a far lesser order of seriousness than those posed by the Ph.D. programmes. The reasons for this view are mainly that M.A. instruction is less exacting than Ph.D. instruction in the sense that it can usually (though not in all sub-fields) be handled reasonably adequately by competent undergraduate-level teachers, that it is far less subject to economies of scale and can therefore be carried on by relatively small departments and with relatively small student enrollments, that its resource cost is substantially less than that of post-M.A. training for the Ph.D., and that the market for M.A.'s is broad and resilient enough for under- or over- allocation of resources to M.A. training not to be likely to involve serious social losses. In addition, insofar as serving "cultural and societal factors" (or "needs") in contradistinction to producing highly-trained manpower for the economy has substantive meaning as the object of graduate training, it is at the M.A. rather than the post-M.A. level of graduate work that such needs are likely to be served. We therefore draw a distinction in our thinking and recommendations between M.A. programmes and Ph.D. programmes.

(b) M.A. Programmes

Our main criticisms of existing Ontario M.A. programmes in general concern the tendency to offer an excessive number of peripheral optional courses, which attract small numbers of students and in consequence are frequently taught as reading courses, and the associated tendency to give insufficient emphasis to the micro-economics, macro-economics, and quantitative methods core of the subject. We therefore recommend that departments, and especially those that offer only the M.A., be asked to review their course requirements with a view to placing more emphasis on theory and quantitative methods, streamlining and consolidating the optional courses into a smaller number of broader-based courses. Streamlining of the optional courses we consider desirable to improve the training received by the students, economize on staff time, and facilitate the maintenance of consistent standards of examination grading. We approve of the trend towards eliminating the M.A. thesis and urge that it should nowhere be required. Though students may derive considerable benefit from writing an M.A. thesis, such theses are unlikely to constitute significant contributions to knowledge given the present sophistication of the subject; they typically absorb a great deal of staff time; and the completion of the dissertation--if it ever is completed--frequently drags on long after the end of the academic year formally allowed for the M.A. programme.

In Chapter IV we called attention to the weakness of the M.A. programme offered at Lakehead University. We recommend that the Appraisals Committee be asked to make an appraisal of this programme. Also, while we did not specifically express strong criticism of the M.A. programme at the University of Waterloo, we feel sufficiently doubtful about its structure and content to recommend an appraisal in that case also.

(c) Ph.D. Programmes

As in the case of the M.A. programmes, we note a tendency for the Ph.D. programmes in economics to be excessively dependent on peripheral optional subjects attracting relatively few students and hence being offered as reading courses. Also, one or more seminars sometimes replace rather than supplement formal lecture courses. Accordingly, we make the same recommendation, that the departments should be asked to review their Ph.D. programmes with a view to reducing, consolidating and streamlining the options normally available to students, for the same reasons of economizing on staff time and facilitating consistent examination of students both within and across courses. In this connection we call attention with approval to the decision of the McMaster department to offer Ph.D. specialization in only those fields in which its competence to teach is assured.

We concluded in Chapter IV that while the Ph.D. programmes at Ottawa and Carleton are adequately conceived and managed, the numbers of students involved are so small and their addition to the aggregate supply so little needed as to raise serious doubts about the desirability of continuing these programmes. Our terms of reference are ambiguous with respect to whether on this diagnosis we should refer the matter to the Appraisals Committee or use our own judgment. We adopt the latter interpretation, and recommend that these programmes be terminated, though we would prefer the matter to be judged by the Appraisals Committee.[1]

(d) New Programmes and Types of Programmes

It will be obvious from the previous sections that we recommend that no further programmes of the existing type at either the M.A. or the Ph.D level should be initiated in universities that do not already have them. We realize that this recommendation entails frustrating the aspirations of some economists of recognized quality in the departments interdicted, but feel that this is a lesser evil than sanctioning the proliferation of further uneconomically small programmes of academically mediocre overall quality or worse. In the longer run, those who feel seriously aggrieved and have justification in so feeling should be able to find a place in an existing graduate programme in Ontario or elsewhere.

We do not feel inclined to recommend the initiation of any new types of programme, at either the M.A. or the Ph.D. level. In our judgment the first priority at present is the consolidation and improvement of existing programmes in terms of raising quality and achieving a higher proportion of completed degrees. We would not, however, oppose experimentation with new types of M.A. programmes provided there were a clearly demonstrated need and purpose and a sufficiently large visible supply of candidates.

We feel that part-time programmes may be useful to the students and at the same time academically adequate at the M.A. level, particularly in the special circumstances of Ottawa or of Toronto, where it is possible to obtain a large enough flow of candidates to permit the maintenance of consistent and adequately high academic standards. However, we would prefer to leave the proposal and appraisal of such programmes to the departments and the regular appraisal machinery, rather than ourselves specifying conditions for their introduction. We would, on the other hand, recommend strongly against any attempt to introduce part-time Ph.D. programmes (i.e., provision for procedure to ABD status on a part-time basis), on the grounds that adequate preparation for the writing of a thesis, and the selection and "blocking out" of a thesis topic, require at least two years of full-time concentrated effort of the student in a group atmosphere of determined and purposeful hard work.

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[1] Professor Johnson, dissenting from the body of this report, recommends that the M.A. and Ph.D. programmes in economic history at the University of Toronto be subject to an appraisal. On reflection he has become doubtful about the desirability of the principle of softening requirements in theory and quantitative methods for economic history specialists as compared with economics specialists. His recommendation, he would emphasize, is not derived from any evidence or opinion that these programmes are inadequate, but simply from a consciousness that the consultants have been unable to evaluate them.

We also do not recommend new programmes involving application-oriented and interdisciplinary graduate work, though we would make an exception for collaboration between economists and political scientists in the development of graduate programmes in public policy utilizing already existing resources, such as the M.A. and Ph.D. programmes in public policy proposed by the University of Toronto.

Experiments in the United States give some indication that such programmes, in limited number, are both needed and intellectually viable. Without wishing to discourage innovation, we nonetheless find that no general need exists for interdisciplinary programmes involving economics. Formal interdisciplinary programmes have seldom succeeded, and they can succeed only when managed by a cohesive group of faculty members with unusual interests and abilities. Interdisciplinary research projects do not depend on graduate instruction programmes, and individual graduate students with well-developed interdisicplinary interests can better be handled within regular Ph.D. programmes in economics (or other subjects) than through proliferating formal programmes.

(e) Distribution of Programmes and Specialties: Collaboration

We do not feel that formal distribution of programmes and specialties among departments is either desirable or feasible. We have, however, recommended that departments should attempt to confine their graduate course offerings to what they have assured competence to teach, and hope that implementation of this recommendation will go some way towards eliminating the inefficiencies of unncessary duplicatin of effort.

While we appreciate the potentiality of gains from collaboration and facility-sharing on a regional or province-wide basis, we judge that both the tradition of university and department autonomy and the facts of Ontario geography are against collaboration becoming significantly effective. There is, however, some possibility of economical collaboration between the Carleton and Ottawa departments, in graduate teaching and research direction, and also some possibility of improvement of graduate programme quality in the Toronto-Niagara area through the pooling of specialist teaching capacity and research expertise. We recommend that these possibilities be actively explored.

(f) Involvement with Related Disciplines

This has been commented on in sub-section (d), with respect to interdisciplinary graduate programmes. We have no agreed view to offer on the broader aspects of involvement with related disciplines, and are inclined to feel that this matter is best left to the initiative of individual department members.

There is, however, one point that has struck us, but that we are hesitant to mention since it may be considered outside our terms of reference. The present Department of Political Economy at Toronto, which incorporates both economics and political science, seems to us to be too large and unwieldy to permit effective administration and decision-taking, and thereby the development of graduate work in economics at Toronto to an appropriately high standard. We would suggest that active consideration be given by the University of Toronto to eventually establishing separate departments in economics and political science. (Such a change would not in our view interfere with the proposal to develop joint graduate work in public policy).

(g) Allocation Systems for Influencing the Amount and Distribution of Graduate Work in Economics in Ontario.

We have already discussed this issue to some extent in Chapter IV, under the heading of student quality and admission standards. While university finance lies outside our terms of reference, we would point out at the outset that the source of the problem of allocation is the system by which government pays most of the costs of graduate education, universities and their departments have strong financial and prestige incentives to build up graduate programmes with insufficient regard for either the availability of well-qualified students or the ultimate social need for the graduate product, and students have an incentive to acquire graduate qualifications even if these are not worth their cost to society. Many economists have urged that the problem could be greatly alleviated by making greater use of the price system in the allocation of university resources and students, specifically that students be obliged to pay fees, and that ample student loan facilities should be made available to those who have difficulty in raising funds privately.

In the absence of a price-system solution, some form of rationing of graduate programme places, in total and in distribution, is required. The academic mind, faced with this necessity, tends naturally to turn to the question of admission standards as the key to the problem, and to recommend establishment of a common standard of admissions for all departments offering graduate work in a discipline, to be administered by some sort of centralized coordination among department representatives. The main objection to this recommendation to use standards to determine total student numbers is that it rests on the two related assumptions. One is that standards are objective criteria, whereas in reality they tend to be adjusted to some sort of equilibrium between the resources made available for instruction and the qualifications of those seeking admission. The other is that society has an obligation to finance the training of all those whom the academic community considers qualified, whereas the problem is precisely to determine how many students it is worth society's while to train, and where. It seems to us a very unpromising procedure to attempt to use standards, and variations in them on a common basis, as a means of rationing out a smaller number of places than would be filled on traditionally-accepted standards.

The popular and political mind, confronted with the same problem, tends to look for some principle for discriminating among candidates meeting academic standards of qualification and confining places or financial support or both to the sub-class deemed specially deserving. The obviously appealing principle here is discrimination in favour of residents and against "foreigners", either non-Canadians or (conceivably, but less plausibly) non-Ontarians. We are strongly of the opinion that such discrimination would be inconsistent with the position in and responsibility to the rest of Canada and the general outside academic world of the higher education system of Ontario. Moreover, if the universities and departments are under enough pressure to find graduate students to man their programmes, they can do so, while complying with the principle of discrimination in favour of residents, by "scraping the bottom of the barrel" (shaving standards for the preferred group), and searching the potential supply more actively for qualified candidates who might be induced to undertake graduate work. The problem of lowering of standards in favour of foreign students has been in our view a transitory episode of a chastening character for the new departmental graduate programmes in economics, and one that will largely solve itself as these programmes get established, so long as there is not too much pressure for expansion of programmes and enrollments.

The administrative mind tends to look to a rationing system to solve the problem, either a system rationing students among programmes or this combined with a rationing of fields of specialization among departments. Either system has the appeal of preserving an appearance of equity among established departments. The objections to it are that it freezes the pattern of allocation, leading to increasing inefficiency over time, and establishes monopoly positions that inhibit change and efforts to improve efficiency. Furthermore, a rationing system based on existing programme sizes, especially if it requires reduction of numbers absolutely or relatively to planned capacity, would perpetuate the problem of inefficiently small scales of operation which has been one of the main points of criticism of the Ontario graduate programmes in economics expressed in this Report.

To our mind, rationing of access to graduate work in economics in Ontario should be implemented so far as possible in terms of the overall number of places, these to be allocated to students on the basis of a centrally administered competitive examination or some other centralized decision-taking process for the award of scholarships, without explicit discrimination in favour of Ontario residents however defined. Students should then be free to choose where to enroll for training, with departments being free to compete for students. Some room should be left for students who are willing to pay the costs of their own training. Such a scheme would impose some pressure on departments to improve their course offerings, and specialize on teaching what they could teach well. Its operation would be facilitated by improvement of the information available to prospective students on the offerings, strengths and weaknesses of individual departments' programmes.

There might be need, in the process of transition to such a system, to provide for some restraint on or cushioning of the effects of the rapid change in the allocation of students among departments that might occur in the transition period. Transferring public funds to students, rather than directly to universities, threatens a financial risk to the universities that they lack the financial reserves to bear. Also, if centrally allocated scholarship funds are reserved, or given preferentially to Ontario residents, universities should have some funds to attract other Canadians and foreign citizens and thus desirably diversify their students. Finally, each university should be permitted to control the maximum enrollments in its programmes.

II. Desirable Future Enrollments

We are asked to recommend "desirable provincial enrollments, year by year," in detail to 1978 and in general to 1983. The preceding discussion has made clear that precise recommendations are meaningless because the supply of Ontario-trained graduate economists need not be matched to any well-defined provincial or national need. Indeed, the judgment must be in part a political one, especially in the case of Ph.D. programmes. On the one hand, the best Ontario programmes do not compare in quality with the best available outside of Canada, nor will they in the foreseeable future. On the other hand, some Canadian nationalists have strongly urged that Canadian universities should increasingly be staffed by Canadians trained in Canada. The political choice, thus, is the amount of public funds to be spent on the local production of intellectual capital that could in fact be secured elsewhere at much less cost to Ontario.

In order to provide some useful advice, within the context of this broader problem of public choice, we base our suggestions about appropriate provincial enrollments on these narrow criteria: the number of graduate economists who will be demanded by employers in Ontario and the rest of Canada, over the next few years; the stock of well-qualified student applicants who will seek Ontario training, given the existence of graduate programmes elsewhere; and the number of students who can be handled by the Ontario universities with their present staff. That is, we implicity assume that the near future answer to the policy question identified in the preceding paragraph does not differ greatly from the answer now prevailing.

In Chapter II we showed that projections of economics M.A. enrollments in Canada would exceed Canadian demand in the late 1970's, and that the same holds for the Province of Ontario taken separately. Partly because the supply projection is probably high, we did not regard this excess as serious. We also found (Chapter IV) that the degree yields of Ontario M.A. programmes are in general reasonable. Taken in conjunction with our finding that the standards of most programmes are adequately high, this leads us to conclude that Ontario M.A. enrollments can safely be maintained at present levels, or possibly increased somewhat. Ontario universities with major Ph.D. programmes in general wish to hold their M.A. output around its present level. Substantial increases in M.A. enrollments are proposed only at Carleton and Ottawa. We approve of these expansions, especially in light of our view that these universities should ideally devote less of their resources to Ph.D. programmes.

The projections of Ontario's and Canada's Ph.D. supply that we examined in Chapter II would only slightly exceed projected Canadian demand in the late 1970's. But the increases in Canadian supply proposed by the nationalists would require the diverting into Canadian Ph.D. programmes of many students who would otherwise enroll in high-quality programmes outside of Canada. Given the rationality of this student preference, the real constraint on the expansion of Ontario's Ph.D. programmes is the quality of students who will enroll in them and the rate of completion that can be achieved. Evidence presented in Chapter IV shows these constraints to be important, and convinces us that a substantial expansion of Ontario's Ph.D. programmes in economics can be effected only with a substantial lowering of average quality of both the students instructed and the training they receive. Therefore, on these educational considerations, we recommend no substantial increase in Ontario Ph.D. enrollments in economics beyond their current levels.

The four Ontario Ph.D. programmes of clearly acceptable quality collectively propose only modest expansion by the late 1970's. Queen's and Western Ontario propose none, Toronto a modest increase, and McMaster a doubling from a small base. We concur with these proposed enrollments, noting that McMaster's programme at present is inefficiently small, and that none of these departments is particularly overloaded with students in comparison with leading U.S. institutions. In concurring with these enrollment projections, we express the hope that these departments will strive as promised to deal with the weaknesses in their staffs and/or programmes that were noted above.

We find no need for the Ph.D. programmes proposed by Waterloo, Windsor, and York. The Ph.D. programmes of Carleton and Ottawa are not needed for their contribution to the overall supply of Ph.D.'s, and we have already registered some doubt about their quality and scale of operation. The location of both in the national capital and the bilingual status of Ottawa complicate any assessment of the role of these two departments in the Ontario university system.

APPENDIX B

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DISCIPLINE GROUP RESPONSE

The Discipline group prepared no response

APPENDIX C

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UNIVERSITY COMMENTS

Comments appear from Carleton, Guelph, Lakehead, McMaster, Ottawa, Queen's, Toronto, Waterloo, Western Ontario and York.

Carelton Response to the Final Consultants' Report to ACAP on Graduate Programs in Economics

This response is the outcome of a consideration of the ACAP Consultants' Report as a whole, but more particularly those parts of it that specifically pertain to Carleton University.

A) General Recommendations

The Report contains three different versions of a major recommendation concerning the Ph. D. programmes at Carleton and Ottawa.

> "The Ph. D. programmes at Ottawa and Carleton are not needed on the criterion of supplying enough trained economists to the Province." (p. A-6)
>
> ". . . while the Ph. D. programmes at Ottawa and Carleton are adequately conceived and managed, the numbers of students involved are so small, and their addition to the aggregate supply so little needed as to raise serious doubts about the desirability of continuing these programmes. Our terms of reference are ambiguous with respect to whether, on this diagnosis, we should refer the matter to the Appraisals Committee, or use our own judgment. We adopt the latter interpretation, and recommend that these programmes be terminated, though we would prefer the matter to be judged by the Appraisals Committee." (p. A-135)
>
> "The Ph. D. programmes of Carleton and Ottawa are not needed for their contribution to the overall supply of Ph. D.'s, and we have already registered some doubt about their quality and scale of operation. The location of both in the national capital, and the bilingual status of Ottawa, complicate any assessment of the role of these two departments in the Ontario university system." (p. A-143)

There is, in our view, considerable ambiguity about exactly what is being recommended concerning Carleton University and Ottawa University. The recognition of the special place of the two universities, as well as the preference to have the Appraisals Committee judge the matter, suggests that the consultants had some difficulty making up their minds. The Appraisals Committee of OCGS is concerned solely with academic quality and not with the opportuneness of a graduate program, in terms of market demand for graduates and the adequacy of the supply of graduates. We would welcome its decision on the quality of Carleton's Ph.D. program, particularly on the critical areas of economic theory and quantitative methods, on which we comment further below. The question of the need for our Ph.D. program within the Ontario university system will, we presume, be evaluated more appropriately by ACAP itself.

B) The Scale of Graduate Programs

The Report builds upon two fundamental elements in appraising Ph.D. programmes in Ontario universities: (1) there are extensive economies of scale in Ph.D. instruction and thus large programmes are the only viable ones; and (2) only programmes of an international competitive quality are acceptable.

We do not consider that a case can be made for the only acceptable Ph.D. programmes being large scale ones. Certainly, it has not been made in the Report: (1) there is no basis for the minimum scale economies taking place at an incoming Ph.D. class of at least twenty; (2) there is no comparison of the cost per student for a small scale, medium scale, and large scale approach.

It is also inappropriate to compare data across programmes at different stages in their development. Recently introduced programmes when compared with long-established ones, are going to have (1) smaller enrolments, and (2) fewer students holding external fellowships (Canada Councils, O.G.F.'s) and (3) fewer students of first-class ability, at least until the newer programmes become established (or fail to become established) among the choices of graduate students. In addition, the newer programmes, while receiving fewer applications from first-class students, may be extremely reluctant to accept marginally acceptable students in order to build up a reputation of a high quality programme.

At Carleton we could obviously have increased numbers if we had been willing to reduce quality. Have the Consultants investigated relative standards of admission to Ph. D. programmes in Ontario universities?

C) Quality of Graduate Work in Economics

The Report emphasizes that Ph. D. programmes should be of an internationally competitive quality.

a) Indicators Used

The Report judges the quality of Ph. D. programmes by the quality of the faculty members in each department. While it is not clear precisely what indicators were utilized in building up the basis for a decision, two quantitative measures only are referred to in the Report: age distribution and scholarly output in thirty-five economic journals. The age distribution is too ludicrous a criterion to merit any comment at all. The scholarly output measure is another matter, since the Department agrees that an adequately framed measure of research output and on-going research activity is one valid measure of the quality of the performance of faculty members.

In attempting to report on this measure of faculty quality and research performance, the Report cites data on the number of articles published by economists employed by Ontario universities in thirty-five major economics journals, from mid-1968 to mid-1972. The Report notes that the figures "must be used with great caution" listing five strong reservations regarding them, but then accepts them as a measure of the "general level of research activity and broadly consistent with our general appraisals of the individual departments." (p. A-78). The figures, in other words, were used as an input into the appraisal of the Ontario departments.

In our view, the qualifications noted above vitiate the usefulness of the data. First, faculty quality and research performance should be appropriately captured, as noted, by a more comprehensive measure of output that at least includes books and monographs. Second, if one is prepared to accept only articles published in the thirty-five journals selected, then faculty quality and research performance can only be appropriately measured by relating the published articles to the economist (and not to the institution where he was employed when he published it). This is an especially serious distortion when some universities in Ontario were growing rapidly over the period covered.

When the published articles in the thirty-five journals of the economists at Carleton now are examined, the measured output is twenty-six (mid-1968 to mid-1972) and twenty-nine to the end of 1972. The Report measures output at ten. We have no way of knowing to what extent the figures for the other universities are incorrect; but the magnitude of error is large enough in this one case to render the results meaningless.

The methodology used to select the thirty-five journals in the original Moore article is open to considerable doubt as to its appropriateness in the Frankena and Bhatia article, and its usefulness in the consultants' appraisal. Only one Canadian journal is included. This excludes such refereed Canadian journals as The Canadian Tax Journal and Journal of Canadian Studies, and such French-language refereed journals as Revue d'Histoire de l'Amérique Française, and Actualité Economique. Thus, the restricted frame of methodology excludes outlets that are especially pertinent for publication by economists located at the Ontario universities.

We would further point out that since the Consultants had access to the curriculum vitae of each member of Economics Departments in Ontario, a much better measure of publication output was readily available to them.

b) Grading Scheme

The Report adopts the following grading scheme and then applies it to the universities in Ontario, as a collective judgment of the three consultants:

(1) International Distinction: "Includes a scholar or scholars with continuing research interests and achievements recognized (or becoming recognized) in the international community of economists." (p. A-102)

(2) Adequate: "Includes senior scholars with some worthy research accomplishments, and/or assistant professors who are starting to publish in the leading professional journals; adequate also requires the presentation of graduate courses in suitable number and quality." (p. A-103)

It is the collective judgment of the consultants that the Department of Economics at Carleton University is "certainly adequate" in industrial organization, urban economics, money and public finance, and "probably not adequate" in economic theory and quantitative methods. (p. A-105)

The only stated criticism of the quality of work in economics is this probable inadequacy in economic theory and quantitative methods. No evidence is provided to substantiate this evaluation, and it is the judgment of the Department that it is clearly "adequate" by the Report's benchmark definition. Furthermore, Carleton's strength must be compared with the strength of the other Ontario universities. Given the apparent adequacy of other departments in these fields, then, it is just not possible to accept the judgment that the Department of Economics at Carleton is "probably inadequate" in theory and quantitative methods.

We therefore wish to reiterate our desire to have the Appraisals Committee re-assess the Carleton Ph.D. program, with special reference to economic theory and quantitative methods.

D) Objectives of the Economics Program

The basic assumption of the Report is that the primary purpose of Ph.D. training is to turn out teachers of economics much like those being trained elsewhere. Since Carleton's Ph.D. programme was designed with very different objectives in mind, and has been actively developed to pursue those objectives, it is hardly surprising that the Report's criteria are less than fully satisfied We have had, as a major aim, the training of persons in the various fields of Canadian economic policy. Our graduates were expected to fill non-traditional demands for persons with this sort of specialized training, particularly in the public service of Canada and its provinces. Our course offerings, staff recruiting, and smaller programme size all derive from this objective. Early indications suggest that our placement of students has in fact been as planned. Our faculty accomplishments, in terms of scholarly and journal publications, books, monographs and direct involvement in policy formulation appear to us to have been much more significant than the Report indicates, largely because the vehicles for making these contributions are different from those which would serve traditional areas.

It is our opinion that the original objective is not only a valid one, but a necessary one, and that the means we have used to achieve those ends are the appropriate ones. While we accept that our programme has room for further improvement, we cannot see as a failure our not being what we never intended to be.

E) Competition

A major theme of the Report is the need for more competition at all levels. It goes to the heart of the financial problem, with this in mind, when it suggests that the total number of graduate students should be determined and then allocated on the basis of a centrally administered competitive examination. "Students should then be free to choose where to enroll for training, with departments being free to compete for students." (p. A-140). We agree with and welcome this economic logic. It seems clear, however, that the authors of the Report have not seen all the implications. As economists, they are apparently using a model of competition that is analagous to the case of a competitive industry. They will remember, however, that information as to the 'correct' or 'optimum' scale for member firms is not known in advance. Such information can only be generated by ultimate market forces. Empirical (ex-post) studies have shown that usually there is no one optimum size; the big often live side by side with the small and the only true test is the ability to survive.

In a truly competitive system, where no favours are bestowed, it is likely that different universities will attempt to model their particular operative advantages to the needs of certain types or sets of students. Individual university judgments will only be finally tested after the system has had time to work. This, so far, has not been the case. We are confident that, under this fuller test, a test that is in real keeping with the Report's philosophy of competition, the Ph.D. programme of Carleton University will stand up well. We emphasize that, in the university world, no two students are alike in their interests, their methods of work, or their environmental requirements.

Carleton's Ph. D. programme was introduced with an explicit recognition that: (1) some critical minimum number of Ph. D. students was necessary but a large scale operation modelled on the extremely large U.S. graduate programmes was neither necessary, nor desirable; and, (2) specialization in certain areas - policy areas that took advantage of our relative strengths and location in Ottawa - was necessary. We specifically eschewed the large scale, coverage-of-all areas approach that is now being suggested by the Report. Beyond the core theory and required courses, we considered directed readings was an acceptable method of instruction for a small scale programme. The Department still considers these aspects to be valid. A small scale Ph. D. programme of good quality students is one appropriate method to conduct graduate training, and it is the one that we still prefer.

F) Interdisciplinary Programmes

The Report comes out strongly against the development of interdisciplinary programmes (pp. A-136, 137). The Consultants state that "without wishing to discourage innovation, we nonetheless find that no general need exists for interdisciplinary programmes involving economics. Formal interdisciplinary programs have seldom succeeded . . ." (p. A-137).

They also point out, however, that at Carleton "the department enjoys a complementary relation with certain other parts of the university, such as the School of International Affairs, School of Public Administration and Institute of Canadian Studies." (p. A-107). The report brought a reaction from the School of International Affairs:

> "several senior members of the Department of Economics have been involved in our program over the past seven years. Furthermore, the program is currently attracting over forty high-quality candidates from universities across Canada and elsewhere, and an increasing number of these candidates have backgrounds in economics. While we would not claim to have reached the millenium, there is no doubt that economics has played an important part in our program and that students and faculty alike would disagree with any proposition suggesting that economics does not have a major role to play in such programs."

We consider that economics as a discipline has an important, in many cases an essential role, in interdisciplinary studies and we are disappointed with the conclusions of the Report on this subject.

On page A-107 the consultants suggest that there are certain stumbling blocks to graduate procedures at Carleton "such as university rules for scholarship eligibility that give heavy weight to a graduate student's undergraduate record rather than his current level of performance." We believe that the consultants are referring here to the scholastic index used in rating graduate students, about which they received information on their visit. This index uses as two of its six factors the student's overall performance as an undergraduate and his performance in his major subject. The other four factors which are re-evaluated at the end of each year of his graduate programme are based on both his performance in and potential for graduate studies. Ratings based on the scholastic index have been found to have a high correlation with assessments made by outside scholarship granting agencies. We find therefore that we cannot agree with the consultants' statement.

CONSULTANTS' REPORT - ECONOMICS PLANNING ASSESSMENT

University of Guelph Comments

The University of Guelph considers that the consultants have produced a report with most of which we find ourselves in accord. We wish to comment, first, on some general matters, and then on some specific points concerning Guelph.

(a) The consultants (p. A-32) "do not anticipate any serious excess supply of Economics M.A.'s in the next few years." We strongly concur, indeed we consider that the demand forecasts in Chapter II may well be on the low side. In the public and corporate sectors increasing emphasis is being given to economic research and policy analysis. And generally we note a tendency to substitute M.A.'s for B.A.'s. These two factors suggest a demand increasing more rapidly than in the sixties -- although they appear not to be incorporated in the table (p. A-16).

In the Ph.D. category the table on page A-26 indicates the Ontario demand to peak at about 50 in the late seventies. The 1975-76 figures may be typical, the demand of 42 being made up of 30 due to undergraduate enrolment increase, plus 12 due to retirement and resignation replacements. The consultants assume an

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academic retirement rate of 1% per annum; thus the total Ontario demand from other than universities seem to be only about 8 persons per annum. The remarkable increase in the employment of Ph.D.'s in non-university areas during the past five years seems likely to continue for the foreseeable future; by 1976-77 it seems reasonable to expect 20 to be required for non-university placement and university replacement.

(b) The consultants state (p. A-56) that "... there is no economic or social logic in matching Ontario 'production' against Ontario 'consumption' of graduates ...." While we concur in this statement, we consider it reasonable that Ontario, as a wealthy part of the world, should pay its own way. And we believe that education policies should be designed to work in this direction. There would still be substantial flows of Ph.D.'s across provincial and national boundaries, flows which are desirable to prevent in-breeding. In due time the net inflow of Ph.D.'s into Ontario could reasonably be expected to become a net outflow from Ontario.

(c) In the light of the foregoing we are inclined to agree with the consultants in their comments about allocation

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or "rationing" systems, as developed on pages A-138 to 140. The total Ontario demand for M.A.'s and Ph.D.'s envisaged by the consultants will be roughly matched by the supply figures forecast by the Economics Departments. At neither degree level do the forecast totals imply a danger or over-supply, particularly if, as we suggest, the consultants have under-estimated the demand. In these circumstances, self-regulation would appear to be a justifiable, as well as a more acceptable, alternative to a centrally devised allocation system.

Even if the plans of the Ph.D.-granting universities are accepted as realistic, there will still be a shortfall of well qualified Ph.D. graduates -- suggesting that there is no need for an allocation system. Should their projections be low and a surplus of qualified Ph.D. graduates results, some kind of allocation system would be warranted.

(d) The consultants advocate (p. A-140) a centrally administered system of graduate scholarships as a desirable device for any necessary control of graduate student numbers. The proposal is, of course, reminiscent of the proposal recently presented to the Minister by the Ontario

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Council on Graduate Studies through the Council of Ontario Universities. If the proposal is accepted it will have to be interdigitated with the Canada Council doctoral fellowship program, and procedures must be devised to ensure a capability of providing for capable students who may not decide until February or March that they wish to go on to graduate study.

(e) Finally, we note that the consultants generally create the impression that graduate programs are to be regarded purely and simply as producers of graduate degrees. We are mindful of the additional effect in developing centres of research activity. Strong centres of graduate teaching and research in Canadian universities should ensure adequate attention to Canadian economic policy problems. This is not to say that Canadian problems cannot be studied outside of Canada, but we look to more frequent and more fruitful activity of this sort in the Canadian setting, particularly where the research is of interest to government departments or agencies. In the end the effects of such research activity may be expected to be more important than the numbers of graduate degrees granted. Thus, we believe that Ontario should continue a strong commitment to graduate study in Economics.

....

The following comments pertain specifically to the University of Guelph:

(1) The "rough grading" of library facilities on pages A-84 and 85 is rough indeed. In point of fact, the data collected relate to a standard form displaying monograph classifications for particular fields, and a sample list of periodical titles. The table entitled "Library Resources, Ontario Universities" is not based on the data supplied, but has been compiled from a variety of sources, including out-of-date figures from Statistics Canada (to which Guelph does not report such misleading aggregate statistics as "total volumes"). We find no rationale by which the ratings given on page A-84 could be derived from the table. We most strongly urge that if there is serious interest in library resources in Economics, the data which were submitted by the universities be carefully re-evaluated by a committee fully conversant with the basis of the comparative measures.

(2) The consultants refer (pp. A-108, 109) to our graduate programs in Agricultural Economics, the Ph.D. program in which was successfully appraised more than a year ago, and approved by the Minister for funding a year ago.

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It seems desirable to correct a possible misapprehension that the role of the Economics Department is to provide "service courses". It is important to note that Economics does not provide special service courses designed for Agricultural Economics students, but that the graduate courses in economic theory serve also the M.A. students in Economics. The Economics students clearly are advantaged by having on campus (and in their classes) a substantial number of Agricultural Economics students with whom there is significant interchange. Thus the effective total number of economics-oriented graduate students is much larger than the number cited by the consultants (p. A-90) as the minimum "viable" number. Economics faculty members are named to student Supervisory Committees in Agricultural Economics, and are involved in administering Qualifying Examinations to these Ph.D. students. The working relationships are close and cordial.

(3) In their review of teaching burdens (pp. A-72 et seq.) the consultants set out in Table VII an undergraduate load of 2300 (corrected in the Corrigenda to 1150) in 1971-72. Based on the corrected number, they conclude that Guelph appears overstaffed relative to the provincial

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standard. From the nadir of 1971-72 the enrolments have increased, in 1972-73 the undergraduate load is 1350, and the graduate enrolment 5.5. Faculty numbers not having changed, the current data no longer provide evidence of overstaffing.

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April 26, 1973

LAKEHEAD UNIVERSITY

The beginnings of the M.A. Programme in Economics at Lakehead University date only to 1968. Given the short time since its establishment, the programme should fairly be looked at as a developing programme in an evolving, emerging educational institution. This characteristic of evolution renders a static evaluation only partially relevant, although we were pleased to note that the Economics Consultants agree that a "solid undergraduate programme has been built" at the Department of Economics.

The pace of change in the Department has accelerated over the past twelve months with respect to faculty research activity and publications, student quality and number of students completing the M.A. Degree requirements. Since the Consultants' visit, it is to be noted also that action has been taken on many of the areas that were criticized. Specifically, the structure of the programme and content have been changed, as well as the leadership of the Department.

We, therefore, welcome a reappraisal of the M.A. Programme in Economics, provided that such an appraisal is carried out during the academic year. Any group of economists from the attached list would be acceptable to the Department for the appraisal.

The list of names is not reproduced since the choice of appraisal consultants is entirely a matter for the Appraisals Committee, not ACAP.

McMaster University

Comments on the Report of the Economic Consultants to A.C.A.P.

We have no major areas of disagreement with the bulk of the Report. It would, of course, be possible to debate at length the detailed basis of the forecasts made in Chapter II, and the normative issues discussed in Chapter III, but we do not believe that any useful purpose would be served by adding any contribution we might make at this stage to the already voluminous and impressive evidence before A.C.A.P. Nor do we quarrel with the substance of the recommendations made by the consultants. The report will, of course, be the subject of continuing study by the Department of Economics at McMaster as the effort to improve the quality of our programme steadily proceeds.

We accordingly limit our comments to the section of the report that is concerned specifically with McMaster University. In that connection we should like to clarify what appear to be some minor misunderstandings, and bring up to date the present and projected status of the graduate programme in Economics at this University.

The rate of growth of the Department in terms of number of faculty members has slowed down as student numbers stabilize. The only significant recent change in the major areas of the Ph.D. programme is that Dr. W.F. Hellmuth will become a full time member in 1974, following a sabbatical leave. His involvement as the senior man in public finance has to date been limited in extent by his service as Vice President (Arts). As junior men in the field mature and with the return of Dr. Hellmuth our strength in public finance, which is described on page A-112 as "slightly below adequate", should improve considerably.

The reference on page A-112 to the "low minimum sophistication required in statistical methods" arises, we believe, from misunderstanding. The consultants are, we understand, quite satisfied with the content and standard of our graduate statistics course, Economics 606, but concerned that the rather vague reference in our calendar to "adequate preparation" may result in exemption from that course for students who have no more than an undergraduate course taken previously. This has not in fact happened. Only two Ph.D. students to date have been exempted from the requirement to take Economics 606 and both entered McMaster with M.A.'s in Economics from universities in the U.K., which had included graduate training in statistics equivalent to our Economics 606.

Recommendation (14) on page A-7 and page A-142 of the consultants' report calls for a doubling of the Ph.D. enrollment at McMaster. This is fully in accordance with our own projected growth, our actual members over the years having corresponded closely with original forecasts made in 1967, as shown in the following table:

Year	1967 Forecast		Actual	
Year	M.A. Candidates	Ph.D. Candidates	M.A. Candidates	Ph.D. Candidates
1966-67	14	--	14	--
1968-69	18	6	29	--
1970-71	24	14	33	11
1972-73	30	20	34	21
1974-75	36	25		
1976-77	40	30		

It is also interesting at this stage to summarize the progress of those students admitted to our Ph.D. programme. Two students were admitted in 1969; one received his Ph.D. in Nov. 1972 and the other will graduate in May 1973. Six candidates were admitted in 1970; all had passed their comprehensives by Dec. 1972 and one will graduate in May 1973. Six were admitted in 1971 of whom two withdrew in 1972; the other four are currently writing their comprehensives. Ten students admitted in 1972 are still engaged in course work. Admissions for 1973 are at present incomplete, but we anticipate continuing to approximate our original estimates as we grow to the projected 40 M.A. candidates and 30 Ph.D. candidates by 1976-77.

C-22

UNIVERSITÉ D'OTTAWA
550, RUE CUMBERLAND

UNIVERSITY OF OTTAWA
550 CUMBERLAND STREET

OTTAWA 2, CANADA

CABINET DU VICE-RECTEUR
ENSEIGNEMENT ET RECHERCHE

OFFICE OF THE VICE RECTOR
ACADEMIC AFFAIRS

May 1st, 1973

Dr. M.A. Preston
Executive Vice-Chairman
Advisory Committee on Academic Planning
Ontario Council on Graduate Studies
102 Bloor Street West
Toronto, Ontario M5S 1M8

Dear Dr. Preston:

This is a reply to your request for the University reaction to the A.C.A.P. Economics Consultants' report.

We were pleased to note that the consultants appreciate the continuous improvement in quality which has taken place and is still taking place in our Department of Economics and should point out that the active support of the administration has made it possible to add to the staff two further prominent economists during the 1972-73 year. The consultants were already aware of one of the additions but a second appointment has now been made in the person of Benjamin Higgins. The University administration is committed to giving high priority to the expansion of this department and its graduate programme, particularly in view of the importance of the bilingual M.A. and Ph.D. programmes in our areas of specialization for members of the federal civil service.

We feel that our Department of Economics has a special role to play among Ontario Economics Departments for two not entirely unrelated reasons: (a) Its bilingual capacity and (b) its location in the National Capital.

The bilingual capacity is particularly important because of the government demand for graduate instruction in Economics in French not only for the Franco-Ontarian community but also for students whose first language is English. Moreover, employment opportunities at a senior level for economists who are able to work professionally in both official languages have expanded rapidly in recent years, particularly at the level of the federal government. Whether English or French-speaking, the students have the advantage of benefiting from professors who have been trained in both cultural streams and, therefore, should have a better grasp of the different approaches to problem-understanding and problem-solving activities.

Our location in Ottawa gives ready access to sources of research material and specialized data in federal government departments including the National Library and Archives. This faciliatates research projects of both staff and students and is particularly important for Ph.D.'s in Economics, and after completion of their formal full-time studies, federal employees carrying out research in Ottawa for their thesis should be able to count on local bilingual supervision.

We have presently an enrolment of six full time Ph.D. candidates in Economics. This small enrolment is not due to a shortage of qualified applicants but to the highly selective admission policy of the department. As we appoint additional experienced bilingual professors of proven research accomplishments, we propose to increase the number of full-time Ph.D. students to about fifteen within the next three years. Recent appointments to the department indicate that we are successfully recruiting good professors, albeit more slowly than we should have liked; the slowness is due to the highly selective staff recruiting policy of the department with its emphasis on bilingual capacity as well as academic competence. We expect that an enrolment of about fifteen Ph.D. students should lead to the production of a number of bilingually competent economists that is realistically related to anticipated employment opportunities. An enrolment of this size is close to the optimum recommended by the consultants for a Ph.D. programme.

We are in disagreement with recommendation number 4 of the report. As the consultants point out, "The department is clearly adequate for instruction at the Ph.D. level in some fields -- theory, econometrics, operations research, and economic history..." Since the visit of the consultants, the addition to the staff of a further prominent economist has enhanced this capacity, particularly in development and regional economics. We believe that the maintenance of a bilingual programme of high quality at the University of Ottawa would represent but a small part of the entire Ontario Ph.D. effort in Economics. We are also in disagreement with recommendation 14 of the report, since a small increase in the size of the Ph.D. programme at the University of Ottawa, or for that matter even its maintenance at the present level, could not be expected to lower the quality of the Ph.D. programme; one might rather expect just the opposite in view of the recent and planned increases in the number of qualified staff. Moreover, we are convinced that a small increase in the level of production of bilingual Ph.D.'s in Economics does serve Canada's need and that no other Ontario university is in a position to fill this need.

Yours Sincerely,

Maurice Chagnon

Maurice Chagnon, Ph.D.
Vice-Rector

QUEEN'S UNIVERSITY
KINGSTON, ONTARIO
SCHOOL OF GRADUATE STUDIES AND RESEARCH

May 3, 1973

Dr. M. A. Preston
Executive Vice-Chairman
Advisory Committee on Academic Planning
Council of Ontario Universities
102 Bloor Street West
Toronto, Ontario M5S 1M8

Dear Mel:

I am submitting the attached report as the tentative Queen's comments on the final report of the Economic consultants to ACAP. While the comments were compiled by the Department of Economics, they have been considered thoroughly and endorsed on behalf of the Faculty of Arts and Science by its Development Subcommittee.

I have had discussions with the Principal, with various other persons, and in the Senate Committee on Academic Development, on issues closely related to those raised by the Department of Economics, and I am confident in presenting their report unaltered as the interim comments of Queen's University.

Yours sincerely,

J. E. Hogarth
Acting Dean

JEH/mb
Enclosure

COMMENTS OF THE DEPARTMENT OF ECONOMICS, QUEEN'S UNIVERSITY, ON THE FINAL REPORT OF THE ECONOMICS CONSULTANTS TO THE ADVISORY COMMITTEE ON ACADEMIC PLANNING OF THE ONTARIO COUNCIL ON GRADUATE STUDIES

As a necessary preface to our comments we state our belief that the report of the Economics Consultants is a very good one and that, in the large, we endorse it enthusiastically. Our comments which follow should be read in this general light.

We make our comments in three parts: the first is on the recommendations, the second on the rationale of the presence of graduate programs in Economics in Ontario universities, and the third on manpower projections.

The Recommendations

On the larger number of the summary recommendations of the Consultants' Report (Page A6-A7), namely, recommendations (1) to (6), (8), (10), (11) and (13), we offer no comment. Such a response means either that we do not disagree with the general tenor of the recommendation, or that we refrain from commenting on a recommendation that applies only to other institutions. We make some observations on recommendations (9), (12), and (14); we agree with recommendation (7).

We agree most strongly with recommendation (9) that there should be no formal distribution among universities of responsibilities for particular programs and specialities, and we urge, equally strongly, its adoption. Support for this recommendation is well set out in the Consultants' Report, pages A97 to A137. We urge this point because we understand that in other disciplines in Ontario there has been a tendency towards carving the discipline into many components and to disperse these components in relatively small parcels among many institutions. Such a procedure, in Ontario, in the case of Economics, would lead at the best down the road of mediocrity, and at the worst, along the path of disaster. We emphasize later that the single most important objective of graduate work in Economics is establishment and maintenance of programs of first rate quality by international standards.

We have some difficulty in determining what is being proposed in recommendation (12) and in its elaboration of Page A140 and following. We agree fully with the first sentence of recommendation (12). For the remainder of the recommendations, we have some concern about the view that a central authority might determine the "global number of students to be admitted" (emphasis added) if that, indeed, is what is intended in recommendation (12). (We realize, of course, that governments have to decide the size of their financial support of education in aggregate and in some detail by broad components.) We take it from the elaboration of the same matter on Page A140 that what is intended is that the total amount of provincial fellowships held should be determined and awarded centrally. We would agree with such an arrangement. However, we should be very concerned if what is intended is that all fellowship awards, provincial, Canada Council, and other be awarded by one central group and that these awards be the principal vehicle of entry into graduate work. On another possible interpretation of the recommendation, namely, that it is intended that all public funds in support of graduate work, including that now given directly to the universities, be awarded through grants to students, we would wish to know more of the details of the proposal before we make further comment, except to note that we have something similar to such an arrangement now in the present financial formula. We should add that we are quite in favour of the awarding of fellowships by academic panel in a fashion such as has been followed by the Canada Council. But we are sceptical about the provincial establishment of rigid quotas, discipline by discipline.

Our comment on recommendation (14) is very brief. We do not understand the basis of the assertion in the introductory clause that "Any significant increase in Ph.D. production would entail a decline in quality"...We find little elaboration or support for this view elsewhere in the report and we believe that it is not necessarily true.

A Rationale for Graduate Work in Economics in Ontario

In the section of the Consultants' Report, "The Uneasy Case for University Graduate Programs in Economics", reasons are given why graduate work in economics is not necessary at every university. However, while the authors of the report accept implicitly that there will be some graduate work in Economics in Ontario, we do not find any discussion of the rationale for the view that there is a very good case for Ontario supporting some graduate work in Economics and we feel it important that some comment be made on this matter. Except for sporadic and small exception, Canada and Ontario have been far too long without graduate programs in economics, and more particularly doctoral programs, that can hold their own in international company. In fact, until recently the number of Ph.D.'s awarded has been extraordinarily small. We take it that the reasons for having such programs do not need to be argued at length. We must here take for granted the general social benefits (externalities in the economists' jargon) that come from having present highly qualified faculty associated with first rate graduate schools. These benefits include the general influence of such staff on the overall tone of a university and the university community, the contribution they may make to public life through their contact with domestic and foreign affairs as well as through their own applied research and the direction of the work of graduate students, the broadening effects on both graduate and undergraduate students of contact with the good foreign students that are attracted to a first rate graduate program, the speeding up of the diffusion within the educational institutions of the country of knowledge of new developments in the discipline from elsewhere, and the like. These benefits accrue only if graduate schools of first rate calibre are maintained. We approve, wholeheartedly, the need expressed by the consultants (in another context) "to concentrate attention on the establishment and maintenance of an internationally recognized standard of quality" (Pages A5 and A57). That objective should be sought above all.

Manpower Projections

We accept and emphasize the view of the Consultants (e.g., Page A5) that the probable errors of "manpower forecasting" are so great and the costs of error relatively so small that it is preferable to concentrate on the establishment of a good quality of graduate activity rather than to try to make refined estimates of manpower requirements. Accordingly, we are very dubious about the establishment within Ontario of either global quotas or detailed allocations. We wish to make only two further general comments on these matters.

The first of these comments is about the estimated manpower requirements for economists. The time at our disposal has been so short that we have not been able to go into matters of manpower in depth: in particular, we have no comments to make on the estimated demand for M.A.'s. We do, however, wish to comment on the projected demand for Ph.D.'s and, more particularly, on the non-academic demand, although we emphasize that we are not making an alternative estimate of manpower requirements.

The consultants themselves emphasize that there are substantial margins of error in the figures that they give. We believe that the openings for Ph.D.'s in economics outside academic work have been substantially underestimated (Consultants' Report Page A17 and Table 3, Page A26, and for a reservation Page A24). The figures given on Page A17 of the number of Ph.D.'s in economics hired in the ES classification of Federal Public Service in 1969 to 1971 give a quite different impression of the numbers than our information provides. Alternative information that we have obtained from Dr. Valerie Sonnenfeld in the Ministry of State for Science and Technology, who is working on manpower requirements of scientific personnel and who has access to the printouts of those who are listed in the data stream for the public service, shows that in the data stream listing for all public service classifications there were 13 economics Ph.D.'s hired in 1970, 15 in 1971, 10 in 1972. We note that these figures do not include A.B.D.'s. Also, in the numbers of appointments included here, in each of 1970 and 1971 there were three persons who actually received their Ph.D. degree in the year following their appointment; it is possible that some additional people appointed in 1972 will complete their Ph.D. degree after 1972.

These numbers do not cover the entire civil service, since the information in the data stream listing is not complete (although we understand that it is complete for approximately 90% of those eligible) and since the most senior officials of the government such as Deputy Ministers and Assistant Deputy Ministers would not be included. Further, employees of Crown Corporations or like bodies, such as the Bank of Canada, the Economic Council, the Central Housing and Mortgage Corporation are not included. And of course there are numbers of Ph.D.'s employed in provincial governments, in non-profit research bodies, and in private industry. Data for the United States suggest that approximately two-thirds of the Ph.D.'s in economics are employed in educational institutions and one-third in non-academic posts. It might be expected that the market in Canada would develop similarly to that in the United States. We mention these figures merely to show that the estimates of projected requirements of Ph.D.'s particularly in non-academic pursuits are quite shaky.

The other point that we wish to make is that patterns of the past may change. It is possible and even probable that many more Ph.D.'s could be used in non-academic pursuits with considerable social benefit. The nature of the discipline of economics and the kinds of work to be done for both public and private bodies have changed and continue to change sufficiently that it is quite possible there will be a substantially increased absorption of Economics Ph.D.'s in non-academic occupations even beyond that which has been the pattern in the United States.

We repeat that we are not attempting to provide alternative estimates of manpower requirements in these comments. The main point that we wish to make is that the available information on manpower requirements is not sufficiently accurate to justify establishment of rigid manpower quotas.

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OFFICE OF THE VICE-PRESIDENT
INSTITUTIONAL RELATIONS AND PLANNING

UNIVERSITY OF TORONTO
TORONTO 181, ONTARIO

April 27, 1973

Dr. M.A. Preston
Executive Vice-Chairman
Advisory Committee on Academic Planning
102 Bloor Street West
Toronto Ontario

Dear Dr. Preston:

I would like to add the following comments on the Discipline Assessment of Economics* in addition to those submitted by the Department of Political Economy of this University. We approve the Department's observations on the Report and its view of the recommendations, including those which affect the Department. We would add only that we approve of recommendation 6 and believe that further thought should be given to recommendation 7 and the first part of 8.

Let me state at the beginning that I believe this study to be a test of the A.C.A.P. discipline assessment procedure. The consultants have ably and in a hard-headed way examined the discipline in Ontario in a broader context, have kept the public interest to the fore and professional promotion to a minimum, and have made recommendations about the Ontario system and the distribution of programmes in it which logically flow from their evidence and assumptions, painful though some of these recommendations may be to some universities.

I am well aware that one can quarrel with some of the specific techniques, assumptions and views expressed on particular matters. Indeed, some harsh comments are made about this University, comments which in some instances are extreme. Nevertheless, the general thrust of the Report must be taken seriously.

On a general level, I believe that Chapter 3 on the Historical and Normative Issues is unique among the studies I have seen so far in setting forth clearly the assumptions and framework for the study. I believe it, along with other sections dealing with larger issues such as allocation methods among the universities, can usefully be drawn to the attention of other consultants. I do not wish by this to approve every detail, but the overall emphasis is something which A.C.A.P. and the universities must ponder as they deal with individual assessments.

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* Appendix I

We are all too aware of the severe space problems of the Department of Political Economy and associated social science departments and centres at this University. Our ability to resolve these problems has been seriously hampered by the effects of the freeze on funds for new buildings. We have also taken note of the fact that other universities have been much more generous than we have in the support of graduate students, an issue of some importance given the central role which the Report sees for our Department in this discipline.

The Department's response notes that evaluation of Ontario staff was made by reference to publications in a narrow list of journals. We are disappointed that, on this critical issue, the consultants chose a limited secondary source and missed the opportunity to use a comprehensive primary source. The assessment required a complete vita on every member of the discipline in this province. We do not understand why the faculty and universities involved should go to the expense and trouble of providing these on a comprehensive and uniform basis if they are to be neglected in favour of inferior methods of evaluating faculty.

Once again, since we have had less time for internal consultation and relection than we would like, this University may have further comments and extensions to make at C.O.U.

Sincerely yours,

JH Sword

J.H. Sword
Vice-President
Institutional Relations and Planning

JHS:lc

The Report of the Economics Consultants to the Advisory Committee on Academic Planning

Response from the Department of Political Economy,
University of Toronto

On balance, the Report takes a sensible and constructive approach to the graduate study of economics in Ontario. We particularly welcome the fact that the ACAP consultants for economics, while stressing the responsibility of the Province of Ontario to finance a level of graduate training worthy of its status and affluence, refused to yield to the temptation of indulging in professional promotion. In the latter respect the economics consultants stand in favorable contrast to their counterparts for certain other disciplines. Their rational and restrained approach to the demand for graduate study, to the employment outlook for M.A.'s and Ph.D.'s and to the allocation of graduate programs among provincial universities is to be commended. Likewise, the consultants' evident concern for the quality of graduate staff and programs is to be applauded. In this light, it is all the more regrettable that the text of the Report is marred by unsubstantiated obiter dicta, such as those relating to fields of specialization (page 88) and intra-departmental friction (page 98), and by occasional asides that degenerate, particularly on page 93, into what is nothing more or less than petty vindictiveness of an ad hominem nature. This accomplishes nothing but to detract from a Report that is generally sound and deserves to be taken seriously.

The Department's specific comments on the Report can be grouped under two headings, the first relating to various observations made in the Report concerning the University of Toronto, the second to the consultants' formal recommendations.

Observations

1. The analysis on pages 63-65 offers impressive testimony on the Department's capacity to attract the very best students. This is borne out by its leading position with respect to Canada Council Fellowship holders, whose awards are the outcome of nation-wide competition. But the same analysis also underlines the strikingly low proportion of students who receive scholarship support from the internal resources of the University of Toronto. This University is so clearly behind its sister institutions in student support that there is ample room to increase fellowship aid without raising the question of unfair competition for graduate students. The low availability of internal scholarships has unquestionably affected the general quality of the Department's graduate programs and discouraged highly qualified applicants from pursuing their graduate work in Canada.

2. Some scattered observations in the Report do less than full justice to the standards that the Department imposes on its student body and to the capacity of its graduates to meet international standards of quality. Thus, for example, the Report correctly notes on page 120 that Ph.D. applicants must have received at least B minus in every M.A. course but omits the fact that these applicants must have a minimum average of B plus to gain admission. Again, the Report's comment on page 121 that "only in the last year or two have Toronto's best students been competitive with the other top students in the North American market" is never reconciled with the fact that ten of its graduates were appointed to other Ontario and Canadian universities during the period 1968-72 in competition with graduates from other Ph.D. programs that meet the highest qualitative standards. In any event,

the Report completely omits any mention of two factors that decisively affect the market for Toronto Ph.D.'s: the first is that the federal government has been offering such favorable terms of employment to economists that it has undoubtedly influenced many of the best graduates to choose public service over teaching careers; the second is that the immigration restrictions imposed by the United States government adversely affect the accessibility of the American market to Toronto graduates.

3. On pages 72-75, the Report's discussion of relative teaching burdens accepts too readily the very raw data shown on page 75. Our comments on its results appear in Appendix I, which also points out that an inflation of 21.8 f.t.e. staff in the figures applied by the Report may have distorted the regression exercise as it applies to this Department. We conclude that the Report's totally uncritical acceptance of its data drained this exercise of any meaning whatsoever but would welcome a proper comparative study of economics teaching loads in Ontario.

4. In their discussion on page 78 of the comparative scholarly output of Ontario departments, the consultants note pointedly that the omission of books from the Frankena-Bhatia survey limits its utility as a reliable index of professional quality. In this context, the Department would simply point out that during the period 1968-72, its economists published 40 books and 80 chapters in books. Furthermore, 16 books had been accepted for publication as of June 30, 1972. On another score, the Department wishes to observe that the Frankena-Bhatia index, including only papers published in theoretical journals or in U.S. policy journals, is biased against Canadian universities in which there is a strong commitment to work in Canadian policy problems. When account is taken of three leading policy journals, as shown in Appendix II, it is interesting to note not only that Toronto moves clearly into first place but that its dominant position in substantive applied

economic policy research clearly stands out for each journal separately.

5. The parochialism of the comments on page 88 relating to the study of economic development and of soviet type economies is surely incongruous in a Report which lays such stress on what it deems to be "international" standards. Furthermore, the Department simply cannot accept the dismissal of these fields on the ground that they "are largely legacies from a bygone period of international politics". It can support the views of the consultants only insofar as these fields may dominate unduly the graduate programs of certain Ontario universities. This clearly is not the case at the University of Toronto.

6. The Department takes exception to the allegation, seemingly drawn from sweeping generalization rather than an observation of its actual condition, that the presence of political scientists has obstructed the modernization of its graduate program in economics (see pages 98-99). In point of fact, it is the presence of political scientists that made possible the development of the very joint offerings in public policy which the consultants approve on page 121. Furthermore, the economists were entirely unimpeded by the political scientists in the development of new theory requirements that are praised on page 120. Also, the existence of an entirely separate economic history degree program has guaranteed that changes in economics curriculum requirements are considered strictly on their professional merits.

7. On page 119, the consultants note the Department's international distinction in Economic History, Public Finance, International Trade and Industrial Organization. The Department cannot refrain from noting that its distinction in these fields draws heavily from other than the "recent appointments" praised elsewhere in the Report. Also, the Department realizes that limitations of time may have prevented the consultants from

devoting to the lists of its members' publications the attention they deserve. By any standard, however, the Department submits that the fields of economic development, monetary economics, and history of economic thought should be added to the list of the fields in which it achieves international distinction.

8. On page 121, the consultants take pointed note of the quantitative and qualitative inadequacies of the physical facilities that are made available to the Department. This situation stems from the generally low priority that the University has given to buildings in the social science area and it is most earnestly hoped that positive steps will be taken to rectify the situation in the near future.

Recommendations

The Department's responses to the consultants' specific recommendations are favourable and appear below in the order in which the recommendations appear on pages 6 and 7 of the Report.

1. The Department recently reviewed its M.A. program and, while agreeing with the spirit of the recommendation, points out the importance of an M.A. program that is sufficiently flexible to permit terminal M.A. candidates to take options in applied policy fields.

2. No comment.

3. The Department had just completed a review of its Ph.D. program at the time of the consultants' visit and welcomes the consultants' favourable reaction in the text of the Report. Since the visit, the Department has sharply reduced the number of its optional and reading courses.

4. No comment.

5. The Department wishes to take under advisement the view of one of the consultants that its M.A. and Ph.D. programs in Economic History should

be appraised. The structure of this program is under continuing review, and the Department wishes to reserve the option of asking for an appraisal if it should deem this to be advisable.

6. No comment.

7. The Department endorses this recommendation.

8. The Department welcomes the consultants' favourable reaction to joint Economics and Political Science courses in public policy.

9. The Department endorses this recommendation enthusiastically.

10. The Department agrees with the spirit of this recommendation. It has co-operated fully in making its courses available to graduate students at sister universities and welcomes the extent to which such research institutes as the Centre for Urban and Community Studies and the Institute for Policy Analysis have incorporated economists from such institutions as Guelph, Western and York in University of Toronto activities. As to the possibility of involving outside staff members in the active supervision of its doctoral dissertations, the Department is generally receptive, subject to the Department's need and to its authority to make formal cross-appointments so as to ensure that its standards are being met.

11. The term of the present Chairman expires June 30, 1975. This means that a Search Committee will be struck early in 1974-75. This committee, like its predecessor in 1969-70, will devote due attention to the structure of the Department including its possible separation into distinct Economics and Political Science departments.

12, 13 and 14. These three recommendations are closely inter-related. The Department endorses recommendation 12 enthusiastically, and agrees with recommendations 13 and 14 within the framework provided by recommendation 12. Thus the Department's understanding of the increases in M.A. and Ph.D.

production supported by recommendations 13 and 14 is that these constitute desirable goals but are not to be achieved by centralized decisions or quotas.

Appendix I

Table VII on page 75 reports that the Toronto f.t.e. staff was 58.3 persons. This figure substantially overstates our faculty size in relation to our current teaching programme, because it includes:

a) persons on leave: 15 f.t.e.

b) persons cross-appointed to research institutes and/or extra-Departmental administrative duties: 6.8 f.t.e.

Deducting 21.8 from 58.3, we get a Toronto faculty f.t.e. of 36.5. Presumably this is the faculty size which might be related to our graduate and undergraduate teaching.

We do not know how other universities handled the problem of defining f.t.e. staff. The original ACAP instructions were not very specific. If everyone did what we did, the regression results on page A-73 allow us to draw no conclusions about overstaffing at Toronto or anywhere else. The "overstaffed" departments may simply have higher proportions of absent professors and/or research/administrative assignments in their reported f.t.e. faculty. If some or all other universities eliminated research cross-appointments and/or administrative secondments and/or leaves from the figures they gave the assessors, the regression results on page A-73 are completely meaningless.

Appendix II

PUBLICATIONS OF ECONOMISTS EMPLOYED BY ONTARIO UNIVERSITIES IN 38 JOURNALS (mid-1968 to mid-1972)

	Journals in Frankena-Bhatia list (35 journals)	Canadian Tax Journal	Canadian Tax Proceedings	Bell Journal of Economics and Mgt. Science	Total
Western Ontario	46	--	1	--	47
Toronto	42	7	6	3	58
Queen's	22	2	1	--	25
McMaster	11	1	1	--	13
Waterloo	11	--	--	1	12
Carleton	10	2	--	--	12
York	10	1	--	--	11
Ottawa	4	1	--	--	5
Guelph	3	--	--	--	3
Windsor	3	--	--	--	3

Notes:

1. For journals in Frankena-Bhatia list, see Western Economic Journal, September 1972, and Canadian Journal of Economics, February 1973. The list includes proceedings volumes.

2. Most of the analyses of the economic implications of Canadian tax reform proposals by both Canadian and U.S. public finance specialists have been published in the Canadian Tax Journal and Proceedings. The exceptions to this statement primarily consist of review of the Carter proposals which obviously could not have been written by the Toronto staff who worked for the Carter Commission.

3. The Bell Journal is a new journal which published a significant portion of the more quantitative research in industrial organization and related fields.

4. Contributions from foreign universities to all three added journals are of as much quantitative importance as those from Ontario universities other than Toronto: e.g. to the Canadian Tax Journal and Proceedings jointly:

Berkeley	2
Harvard	3
Illinois	2
U.B.C.	3
Dalhousie	2
Alberta	2

Response of the University of Waterloo
to the Report of the Economics Consultants
to the Advisory Committee on Academic Planning
submitted to A.C.A.P., April 19th, 1973

General Comments:

The main thrust of the recommendations contained in this report will have the effect of concentrating graduate work at the doctorate level in the Province of Ontario in four institutions, three of which offer broadly based programmes in fairly large departments, one offering a rather narrowly based programme in a relatively small department. This recommendation is based on the consultant's view that the future demand for Ph.D. economists can be met by the output from these four universities and that these four provide the strongest programmes currently available in the province. The consultants seem to feel that the needs of this province will best be met by building up large graduate schools based upon the American model. They see no place in the scheme of things for small doctoral programmes catering to relatively small numbers of good students in an atmosphere more paralleling the British system. If one accepts this view then one might ask why four programmes are needed rather than two or three. If the demand for economists can be met by the four programmes which the consultants recommend, then it can surely be met by the three larger departments. On the other hand, if one is to go beyond two or three large programmes, why does one not allow several smaller programmes to exist assuming that these meet acceptable academic standards as determined by appraisal.

We see two dangers in the proposal contained in the consultant's report. In the first place, we are not convinced that the consultant's estimate of the need for Ph.D. economists is accurate. There are reasons to believe that they may have underestimated the need by a fairly substantial factor. This is particularly true if one includes the need for Ph.D. economists who are trained in more applied aspects of the discipline.

A more serious danger which we see in the degree of concentration proposed is the stultifying effect which this is likely to have on the future development of the discipline. While the proposal of the consultants may meet the needs of the province at the present time, we feel that it would be much healthier for future development if the newer universities had the opportunity to develop doctoral programmes. It would be reasonable to expect such programmes to meet standards of excellence comparable to those existing in the four strongest departments and to develop a unique thrust not offered by the more traditional programmes currently in existence. In particular, we believe that there is a need in Ontario for a strong Ph.D. programme in Economics which offers an alternative to the American model and the American approach to economic theory which is based on a closed economy model. The issue is not one of including more Canadian content, but rather of presenting an approach to economic theory based on an open economy model, a model which we believe is more relevant for economists concerned with Canada's position in the world economic community. The possibility of such future development would hold out a challenge to the newer universities which would lead to healthy development and healthy competition with the older established institutions. If all of the newer universities are to be excluded from any activity in doctoral work for the next decade, then the future is indeed bleak.

Specific Comments:

In their comments on the graduate programme at the University of Waterloo, the consultants recommend that the M.A. programme currently offered by this university should be appraised. We would like to point out that the M.A. programme in Economics at Waterloo was favourably appraised in the Fall of 1970. Since that time, it has certainly maintained its strength and in some aspects of the programme, has become stronger. We see no need for a second appraisal at this time.

Conclusion:

In summary, the University of Waterloo urges A.C.A.P. to proceed with caution before it recommends the degree of concentration of doctorate work in Economics proposed by the consultants. It urges, particularly, that the way be left open for the development of new programmes in the newer universities in the future provided that such programmes can meet established criteria of academic excellence and can demonstrate that they will fulfill a need in the development of new thrusts in the field.

Respectfully submitted,

L.A.K. Watt

L.A.K. Watt
Dean of Graduate Studies

LAKW/mw

Response of the University of Western Ontario to the Report of the Consultants in Economics of the Advisory Committee on Academic Planning

This response of the University of Western Ontario to the ACAP Consultants' Report on the discipline of Economics has been generated by a Special Senate Committee established for the purpose.

The Committee is impressed with the concise and penetrating analysis of the state of the discipline contained in the report. We are especially pleased to find that the consultants have indicated in general a rather high regard for the Economics program at this University. However, we would like to make the following comments on specific points raised in the report as they relate both to the University and the Province as a whole.

I. Recommendations

In regard to the recommendations (as summarized on pp. A-6 & 7), we wish to comment as follows:

a) It will be evident from the examination of our program that recommendations 1 and 3 have already been implemented at U.W.O.

b) We agree with the recommendations made in Nos. 6 and 7 concerning the future restrictions on extending the number and types of new programs. We are in particular agreement with the Consultants' recommendation against part-time studies and urge that every effort be made to secure a more adequate base of student support, especially at the ABD stage.

c) In regard to b) above, we believe the first sentence of recommendation No. 14 to be a sound rationale for recommendations 6 and 7.

II. Foreign-Trained Economists

The suggestion of the Consultants (p. A-36) that the discipline continue to rely on foreign-trained economists (Canadian and others) is acceptable at present because of existing limitations on support of non-Canadian students. However, if an appropriate method of financial support for a limited number of highly qualified foreign students were developed, U.W.O. would not be averse to their admission since the Consultants' data suggests that a significant proportion of these students (from Australia, U.K., U.S.A., etc.) remain in this country to make their contribution to Canadian society (see remarks below Table V on p. A-68 of Consultants' Report).

III. Limitation of Graduate Study by Field of Study or Number of Students

We endorse the Consultants' explicit rejection of quotas and distribution of areas of specialization for the Province. There seems to be strong evidence that the application of a scheme of rationalization to the discipline at this moment could result in atrophy of the entire system.

IV. Bottom Heaviness

In several places the Consultants refer to Western's "bottom-heavy" distribution of faculty. In some cases it refers to age distribution (e.g. p. 76), and in others to rank distribution (e.g. p. 125). While we do not wish to minimize the problems associated with this phenomenon, however defined, its sources and merits deserve emphasis.

The source is the rapid growth of the late 1960's together with the policy of setting "an unusually high standard of research performance ... as a condition of tenure ..." (p. 126). Given the current prospect of zero growth, or even decline, in faculty size, Western's

Department has by its tenure policies avoided becoming unduly burdened with unproductive senior faculty. Instead, over the past few years, the tenured ranks have been augmented largely by strong promotions from within the Department, and several more such promotions are likely to take place in the coming years. In short, the process of maturation from within should continue, with the addition of a few strategic senior appointments from without. The gains from a strict tenure policy far outweigh the temporary costs associated with the bottom-heavy distribution. It is our view that the strict application of tenure policy has contributed to the relatively satisfactory evaluation of the department found in the Consultants' report.

V. Economic Development Studies

We share the Consultants' concern over the potentially excessive allocation of resources to the field of economic development, and endorse their view that it "should not dominate construction of degree programs" (p. 88). We wish to note, however, that the Ontario universities do have an obligation to some parts of the developing world to assist in meeting their requirements for high-level manpower. It is for this reason that the Department at Western has engaged in a long-term program with the University of Ghana. To do so, the Department has developed a small group of faculty members whose experience and publications in developing countries are very extensive. Relative to the Department's graduate program as a whole, however, the development field is small and the number of Ghanaian students is small.

In this regard it is worth noting the absolute numbers of Ghanaian students in the program as a guide in interpreting the data concerning origin of graduate students in Table I (p. 60). During the year 1971-1972 there were 6 M.A. students from Ghana out of a total of 32, and 6 Ph.D.

students out of a total of 49. If we exclude the Ghanaian students in calculating the percentages of students from other than the U.S., U.K., and Australia, this would lead to 12% of the M.A. students and 26% of the Ph.D. students with first degrees from countries other than Canada and those noted above.

VI. Mediocre Quality of Students

The Committee is puzzled by the Consultants' remarks on the generally poor quality of graduate students in the discipline of Economics, especially so in that no admission or other data are cited. In our own Department, the admission profile reveals that our students are comparable to those in the better institutions in the U.S. A significant number of our graduates from the honours undergraduate and masters programs are admitted to the graduate programs of these same universities.

VII. Graduate Degree Yields

The issue of degree yields at the Ph.D. level is correctly a matter of concern to the Consultants. It is of some interest to update the figures for Western Ontario contained in Table IX (p. 80). Shifting all dates forward by one year, reflecting both a higher enrolment in later years and additional Ph.D.'s completed, the ratio of degrees to enrolment with a three year lag becomes .08 (instead of .05) and with a four year lag it becomes . 11 (instead of .07). This clearly justifies the Consultants' caveat that their estimates "may be biased downward ... because the programs ... have expanded rapidly over the period in question ..." (p. 81).

The University of Windsor Comments on "The Report of the Economics Consultants to the Advisory Committee on Academic Planning on Graduate Programmes in Economics in Ontario."

1. The Report tends to underestimate future demand for Ph.D.'s in economics. The statistical projection in Chapter II does not include all potential employers and the most important omissions are the Bank of Canada, Economic Council of Canada, provincial governments and banks, as well as various international institutions which are often unable to fill the Canadian quota for the lack of qualified candidates. Moreover, as the Report rightly states, "training in economics allows the trainee to undertake a wide variety of jobs that he would not otherwise be able to qualify for and to handle" and "therefore there is no significant loss involved in having an excess of economics graduate students beyond the number indicated as necessary by statistical projections of requirements" (A-55/56) .

In addition, the Report does not take into consideration the substitution of the Canadian-trained for the foreign-trained economists which may take place in the long-run. It accepts the present situation as constant and states that" ... Canadians have shown substantial preferences for securing their Ph.D. degrees outside of Canada ... and Canadian universities have revealed a preference for hiring economists with graduate training in other countries..." (A-70). However, it is possible that the data presented in the Report do not reveal anything about current preferences, or that the past trend was caused not so much by preferences as by the absence of other options. Canadian students may have chosen foreign training because domestic and foreign programmes were not closely substitutable for each other or because the availability of financial assistance at foreign universities was obtainable more readily than in Canada. Universities have hired foreigners mainly because rapidly increasing demand encountered restricted supply of the Canadian-trained Ph.D.'s. Moreover, the rapid expansion of universities required a relatively high proportion of senior or at least experienced faculty and specialists in certain fields in which there was no graduate training available in Canada. A more moderate rate of expansion, which is expected in the future, will mainly depend on the intake of newly graduated Ph.D.'s. To the extent to which the present situation reflects insufficient supply rather than particular preferences, the strengthening of the Ontario Ph.D. programmes and widening the range of available specializations will tend to reduce the dependence on the foreign trained economists.

2. In several places (e.g. A-13, A-36, A-56), the Report indicates that foreign-trained and domestically-trained Ph.D.'s are perfectly substitutable for each other in Canadian universities. This view is obviously in conflict with the view currently popular among politicians, journalists, and perhaps the general public. Although training in theory and quantitative methods is likely to be the same, stocks of knowledge and research interests constitute areas in which meaningful distinction between the two groups can be made. Will the foreign-trained non-Canadian possess adequate knowledge of Canadian history, institutions, and facts? Will he make the additional investment necessary to acquire this information, especially when the investment does not usually lead to

a publication? Will his research activities be directed to problems in which Canadians have relatively strong interest or which affect Canada relatively strongly? There may, therefore, be some valid long-run reasons why the graduate schools in Ontario should be expanded and should be additionally subsidized if at present they are not as efficient as the top U.S. universities.

3. The Report is based on the U.S. model of undergraduate and graduate studies. It downgrades undergraduate studies which are regarded as an extension of high school providing general education. Hence, it assumes that "a graduate student is a different breed of animal than an undergraduate student, or should be, because he has decided to make a professional career in the subject" (A-46) and that "graduate teaching requires a different kind (or a different balance) of knowledge" (A-47). The Report completely ignores that there are two types of undergraduate programmes in existence at the Ontario universities: (1) B.A. general programmes which closely correspond to the U.S. approach assumed in the Report; and (2) B.A. honours programmes which are based on the British approach to undergraduate studies. Although the Report states that Canada has "a tradition of the high quality of undergraduate instruction in economics" (A-43), it overlooks that this reputation has been established mainly because of the existence of specialized honours programmes for the students who decide "to make a professional career in the subject" already at the undergraduate level. These students are usually particularly successful at the graduate level in the U.S. universities. The essence of the British-type undergraduate studies is that the courses are given by the professors who also are in charge of graduate studies.

Indeed, the first year courses are often given by the most senior staff. If the British attitude towards undergraduate studies is maintained in the Ontario universities, the arguments given in the Report in favour of the separation of undergraduate and graduate studies and, particularly, undergraduate studies and research, lose their validity. It is true that some undergraduate courses may betaught by faculty members whose main commitment is to teaching rather than research. However, this is possible, and even desirable, only when the students are also exposed, in some other courses, to scholars who are involved in research and are working "at the frontier of knowledge." (A-48). Otherwise, following the historical experience of American universities, the main stress of university education is shifted to the graduate level and, therefore, to the later years of the student's life, at the time when youth seems to mature earlier than this was the case in the past. It would be interesting to study to what extent the U.S. system which assumes that undergraduates are too immature to start serious studies has contributed to the feeling of alienation and frustration among the students and to the charges that the universities provide education which is irrelevant and a waste of time. It is also impossible to accept that the education of students who must be trained for the future rather than for the present and when "the scholarly subject is developing rapidly in terms of both the sophistication of techniques of enquiry and problems considered relevant and at the frontier of knowledge" (A-48) could be left entirely to the "undergraduate teachers".

Instead of a rigid separation of undergraduate and graduate studies, the goal should be to build balanced departments. It is true that "not every academic likes the standard mixture of undergraduate instruction, graduate instruction, and research" (A-52). The Report favours a solution in which "offered a varied range of choices, faculty members in the long run would sort themselves out between universities, with the undergraduate-teaching-inclined going to one type of university and the graduate-teaching-inclined going to another type of unviersity (A-52). It rejects the alternative in which "this sorting-out process" takes place internally within each university department on the assumption that the selection of the individuals by the universities and of the universities by the individuals could "be defined in advance and individuals would choose the combination or balance of the two they most preferred" (A-52) and the time they are looking for employment. It is, however, at least also possible that in practice it is difficult to determine these matters in advance from the point of view of both the universities and the individuals and that the degree of mobility among the universities is rather restricted.

Similarly, the argument that "... there is no obvious reason why the research they /the undergraduate teachers_7 do is most efficiently carried on in the same institution or geographic location as their teaching" (A-44) overlooks financial and family considerations, as well as the waste of time and efforts involved in commuting or moving for a short period to another location. Surely, this is not an efficient way to achieving an optimum balance between research and teaching. The concept of a balanced department in which individuals can, within certain limits, choose the balance which they prefer seems a more flexible solution than the concept of rigid separation of undergraduate and graduate schools.

4. It is very unfortunate that the Report shows a bias against smaller and newly established universities. It includes several statements of opinion which are degrogatory to both the academics who are employed in these institutions and the administrators who have employed them. The following statement can be taken as an example:

> "Rapid expansion means the necessity of hiring many young faculty members fresh out of graduate school and some senior people ambitious to escape from schools in which they judge their influence and opportunities incommensurate with their scholarly potentialities. Although they are hired for undergraduate teaching both groups are most likely to crave an opportunity for graduate teaching that the profession as a whole does not deem that they deserve - either yet, or ever". (A-40)

The statements of this nature should at least be balanced by recognition that some faculty members accepted appointments at newly established or expanded universities because of the challenge provided by participation in the building of a new department and university, introduction of a new programme of studies or because of preference for teaching in smaller groups and for a closer contact with the students. It should also be recognized that sometimes, from the point of view of getting work published, it might have been a more opportunistic decision to stay at a large and well-established university rather than to join a still relatively unknown institution. The revealed bias seriously undermines the value of both the assessment of various universities and the recommendations of the Report.

5. The Report magnifies the role of "economies of scale" in production of Ph.D.'s, but the marginal cost of the process is considerably reduced as soon as one rejects the implied assumptions

that undergraduate studies are of the general arts type, that the separation of research and teaching is both feasible and desirable and that undergraduate teaching can be left entirely to the "less expensive" staff. Once these assumptions are rejected, it may be possible to introduce Ph.D. training on a limited scale without excessively large additional expenses. In its rejection of "handicraft-apprenticeship" method (A-48), the Report overstates the advantages of large-scale "factory" methods of producing Ph.D.'s. There are some cases when even the most outstanding students feel alienated and frustrated in the large factory-like graduate schools in the United States. Although large departments have some obvious advantages, which are well stressed in the Report, there are also some advantages of a small scale when the objective is to train small numbers of particular specialists, to develop motivations and attitudes as well as to provide technical training. Personal guidance and close contact between the professor and the student may be of greater value, at least in the case of some individuals, than the advantages associated with the large scale.

6. The Report rejects distribution among the Ontario universities of "responsibilities for particular programmes and specialties" (A-7) but it accepts a limited Ph.D. programme in a few selected areas in the case of McMaster University (A-94). It is not clear why the "McMaster solution" could not be extended to other universities. This is the concept on which the Department of Economics at the University of Windsor has based the preparation of its Ph.D. programme. While building the staff which would be able to provide a balanced undergraduate and M.A. programmes, special stress was put on gathering a number of

specialists in two carefully selected areas, Economics of Human Resources and Economic Development, including some Area Studies (Eastern Europe and Latin America and the Caribbean).

7. The recommendations of the Report are based on a particular set of assumptions. If these assumptions are accepted, the recommendations are logical. If, on the other hand, at least some of them are rejected, it is possible to formulate an alternative strategy of development of graduate studies at the Ontario universities.

If demand for Ph.D.'s in economics is somewhat greater than the Report suggests and the foreign trade economists are not perfectly substitutable for the Canadian-trained economists, the expansion of graduate studies on a moderate scale should be encouraged in Ontario. If undergraduate studies should not be limited to the U.S.-type general arts programmes and undergraduates should not be taught exclusively by "undergraduate teachers" who have no current involvement in research and if "balanced departments" are more flexible than the rigidly enforced separation of undergraduate and graduate studies, and if the assumption that the staff at the smaller and newly established universities must be inferior is rejected, then the large-scale economies on which the Report's recommendations have been based are less important and the marginal cost of introducing limited Ph.D. programmes should not be high. This is particularly true if specialization is encouraged among Ontario departments of economics. It is clear that all departments which offer Ph.D. must be strong in both theory and quantitative methods, but it is not necessary for each of them to offer a wide list of optional subjects. The student's freedom of choosing the area of specialization (A-48) would then be exercised by selecting the University with a given field of specialization.

Although the Report recognizes the danger of monopolistic power created by restricting entry into the group of departments which offer Ph.D. (A-97), it overlooks the fact that in order to increase efficiency of the system as a whole the departments should not be discouraged from building (in terms of staff, library facilities and improving their undergraduate and M.A. programmes) for the introduction of Ph.D. programmes in a few selected fields when they are ready to do so. It should be kept in mind that "the economist consultants would rate Queen's and Western Ontario as about tied for the status of best department in the province" (A-93). Had this assessment been made some 15 years ago these two departments would perhaps have been advised, on the assumptions accepted in this Report, not to attempt to introduce Ph.D. programmes as the economies of scale would suggest that such a programme should exist only at the largest and the most developed department at the University of Toronto. There seems, therefore, to be some wisdom in not restricting entry to the exclusive club.

This alternative strategy of development of the Ontario graduate programmes in economics should at least be seriously considered by the Advisory Committee on Academic Planning.

YORK UNIVERSITY
4700 KEELE STREET
DOWNSVIEW, ONTARIO, CANADA

FACULTY OF GRADUATE STUDIES
OFFICE OF THE DEAN

30 April 1973.

Professor M.A. Preston,
Executive Vice-Chairman, ACAP,
Council of Ontario Universities,
102 Bloor Street West,
Toronto 181, Ontario.

Dear Mel,

York University's response to the final consultants' report to ACAP in the Economics discipline assessment is given below in two parts. Part A is a summary analysis of the first section of the consultants' report. Part B is a statement on some matters of direct concern to York.

A. York University has regretfully come to the conclusion that the final Report of the consultants on the discipline assessment of Economics is a doubtful base from which to give direction for the planning of graduate training in economics for the Province of Ontario. York's concern is that the existing structure of Canadian academic institutions teaching economics be determined on the basis of evidence drawn from an examination of conditions as they now are. The analysis in the Report provides a sketchy and inadequate background for the recommendations. Far reaching, and yet very specific conclusions, are set forth on evidence which the reader of the Report is warned several times is something less than conclusive.

Even though the Report shows an awareness of the potential errors in "training for a presently perceived market", much of the Report is devoted to what is perceived to be the market in Canada for economists with post-graduate training. It is argued that if the proposed plans of Ontario universities were followed there would be an over-abundance of training facilities for the number of students offering themselves, and that if the training facilities were fully utilized, the labour market would have no need for the resulting output. This line of reasoning is protected by the observation that if there are changes in the future level of supply and demand for economists, Canada can always return to its usual practice of reaching abroad for assistance.

The point is that the data offered in the Report will not stand up to the conclusions, and studies do exist that cast doubt on the safeguard that is envisaged for possible errors. Figures on the demand side are the most vulnerable.

At the core of the demand discussion in the Report is an analysis of work prepared by the Canada Department of Manpower and Immigration. These data, obtained independently by the consultants, have proved impossible to check. The University has been informed that the data used in the Report were, and remain, preliminary and confidential. Some information on the general nature of the data is however available. The Manpower and Immigration projection involves an assumption that the supply and demand for economists was on average in a state of equilibrium over the period 1966-69. Then, in keeping with projected annual increases in GNP at approximately 5.5% a year, a corresponding projection is made assuming that the earlier historical relationship between the number of economists and the level of GNP remains constant.

In the consultants' Report demand is treated in a more simplistic way. The base for the projection, in fact the very heart of the projection, is the figure 146 which is alleged to have been the demand for M.A.'s in 1966/67. As far as can be determined from Statistics Canada data, 146 is the total number of M.A. degrees in Economics conferred in that academic year by Canadian universities. Even if all the students obtained jobs, it is difficult to conceptualize this (146) as a demand figure. If there were an equilibrium of supply and demand in 1966/67, it may, and in all likelihood will, be something other than this figure. It would not include the holdovers from previous years, immigrants, returning Canadians, re-entries to the labour force or even job-movers. In fact, it is difficult to assign to the figure any meaning other than that it is a part of the total demand or supply whichever is preferred. The government sidesteps the issue by saying there was a "requirement" for 146 economists not a "demand". Further analysis of the 146 figure highlights this issue. If 146 new M.A.'s entered the economist market and at the same time wages did not change materially, as seems to have been the case, then the demand for M.A.'s must have reached a point approximately 146 above its former level to form a new and higher level of demand for economists.

Demand for Ph.D. level economists is even more lightly treated. Following the lead of the Economic Council, the numbers are limited to the estimates of potential students to be taught. This is a many-sided argument. The Economic Council did note the slowness with which Canadians are recognizing the usefulness of Ph.D. training in Economics for other purposes. Similar slowness is not present in the United States where as early as 1964 the National Science Foundation reported that only about 31% of economists with Ph.D.'s were engaged in teaching. There is increasing evidence that Canadians are establishing like trends. The consultants' Report more or less ignores such trends to greater use of Ph.D.'s in Canada.

The University cannot accept the line of reasoning that is adopted in the first part of the Report, but considers, on the contrary, that the Canadian demand for highly trained economists is greater than the consultants estimated; that the social need for Canadian trained economists is considerable already and is increasing - and that is reflected in the introduction of Economics as a high school subject; that in the Federal Public Service alone there is a capacity for employment which is not at present met because of the short supply of M.A.'s and Ph.D.'s; and that, in a large-scale planning exercise of this kind, attention should be focused on the relatively low utilization of economists in Canada rather than on the status quo in which a high percentage of Ph.D.'s remain in universities. In its acceptance of the status quo, in the 1966-69 period, the Report is disappointingly unimaginative. (Note particularly p.131, paragraph 1.)

B. There are three specific matters to which York feels attention should be drawn.

[1] The University is most reluctant to accept the consultants' opinion (p.A-142) that the training of Canadian students in the universities of the Province rather than in the States would result in "a substantial lowering in quality". Nor do we agree that training above the status quo accepted as a base in the Report should be done in the States because there it could be done more cheaply. There will always be Canadians who continue their education in the States. On the other hand, the consultants' perception of a discrepancy between the level and type of advanced training in the States as compared with Canada should, in this University's view, have led to the recommendation that Economics' programmes in Ontario needed strengthening. To say that graduate work in Economics should be done in another country is scarcely a significant contribution to graduate planning in Ontario. If there are weaknesses in Ontario, as the consultants allege, they should be remedied.

[2] The consultants' remarks on York University begin with the statement: "Appraisal of the quality of the York department is rendered particularly difficult . . ." It is understood in ACAP, we feel sure, that academic appraisal ought not to be a prime concern of a planning consultant. We do not wish to dwell upon what seems to have been a mistaken approach but note simply that OCGS approved the York doctoral programme after consideration by the Appraisals Committee.

[3] It is possible that if the consultants had spent more than a few hours on the York campus they would have been less negative in their judgment of the administrative and operational structure of the University. The University simply does not accept the contention that the quality of the faculty, good or bad, is inextricably bound up with the University's administrative arrangements. Economists can do good work without physically being located in one place. In any case, we take exception to paragraphs 1 (p.A-130) and 4 (p.A-131) when read together, since the consultants have obviously misunderstood the way in which the University operates administratively. An outsider, accustomed to monolithic departments and unacquainted with either York or Ontario, might well gain the "impression" of fragmentation during a short visit. Closer and more careful scrutiny would, we submit, lead to a different conclusion. The economics group at York was not built on what the consultants call the star system.

York University trusts that ACAP and COU will regard the argument of the first part of the consultants' Report with scepticism; that despite the enormous conservatism of the consultants, the decision will be to foster not retard the development of graduate education in Economics; and that the York doctoral programme having been favourably appraised by the Appraisals Committee of OCGS, will be released from the present Government funding embargo.

Please note, as usual, that this is the University's response to the final report of the planning assessment consultants. York University reserves the right to adopt a different position once the recommendations of ACAP are known.

Yours sincerely,

Michael Collie,
Dean, Faculty of
Graduate Studies.

APPENDIX D

BEST COPY AVAILABLE

PROCEDURE OF PLANNING STUDY AND TERMS OF REFERENCE

Procedure for Economics Planning Assessment

21 January, 1972

A. Tasks Requested from Discipline Group (with help available from ACAP at all stages)

A.1. Prepare a list of major divisions of study and research within economics (completed in 1971). This item will comprise the definition of the boundaries of the study. Also specify any common "core" areas which should be in all graduate programmes.

A.2. Suggest suitable consultants. This also will be a matter for discussion with ACAP. (List submitted, December, 1971.)

A.3. Examine and comment on pro formae to be used for the gathering of information on current, past and future programmes as described in paragraph B.1. (February 1, 1972.)

A.4. Examine and comment on the adequacy of the data on current and past strength. (April 15, 1972 - April 30, 1972.)

A.5. Both in consultation with ACAP and separately, consider the situation revealed by the tabulation of proposed future programmes and consider whether future plans should be modified or developed in more detail. As a result of this step, individual universities may wish to revise the material described in B.1.d below. (April 15, 1972 - May 15, 1972.)

A.6. Possibly develop a tentative plan for development of established or new graduate work in economics in Ontario. Any such plans will be reported to ACAP which will transmit them to the consultants.

B. Information from Universities

B.1. Each university is asked to supply to ACAP, in the form indicated by ACAP after comment by the discipline group (paragraph A.3) information as follows:

a) for each of the major divisions established in A.1. viz. essential or core areas - economic theory, quantitative methods including econometrics: elective areas, encompassing all **areas** of economics with the exception of the special areas listed below - monetary economics (including national income analysis and stabilization problems), international trade, public finance, industrial organization, economics of human resources, economic history, development, urban and regional economics; others, e.g. comparative economic systems, planning and policy etc; special areas - agricultural economics, demography, studies of particular nations or regions. These three areas are distinctive in view of the resource costs in relation to expected demand and/or because of need for strength in related disciplines.

(i) current list of faculty members (for part-time members show the time spent on university duties);

Under these three headings one individual may appear under more than one category. Note that the first two divisions, theory and quantitative methods, are core areas.

b) for each "department"

(i) Curricula Vitarum of all faculty members (Lecturer and higher) showing whether or not they are now engaged in graduate work and showing inter alia complete publication lists, and students supervised during his career. (major supervisor: completed and in progress shown separately).

(ii) resources of space - a statement indicating the department's view of the adequacy of its space, and, in connection with the future plans in (d) below, discussing future space provision;

(iii) undergraduate base; honours students, number of qualifying or make-up year students, course enrolment, etc.

(iv) other general items relevant to research and graduate study, e.g. computing facilities;

(v) support from related departments including shared teaching and research;

(vi) extent of major laboratory facilities and equipment;

(vii) library resources: analysis of holdings and budget;

(viii) description of any inter-university arrangements for graduate work.

(ix) numbers of full-time and part-time faculty members for each of the past five years;

c) table of characteristics of graduate students in the department in previous five years, separately for master's and Ph.D., breaking down numbers by

(i) F.T. and P.T.;

(ii) immigration status (3 years) and country of first degree;

(iii) sources of financial support;

(iv) time to reach degree;

(v) drop-out number;

(vi) Ph.D. ABDs;

(vii) degrees granted;

(viii) post graduate employment of Ph.D.'s (a) immediate and (b) after two years;

(ix) current employment of ABD's.

d) proposed future strength and graduate programme development, in as much detail as the department (or university) has developed, broken down as in a) and b) above wherever possible and showing proposed graduate enrolment. This tabulation and discussion should be accompanied by supporting arguments, including consideration of the sources of graduate students and an analysis of demand for graduates from the programmes. It will, of course, explain any joint plans which two or more universities may have developed. Items a) b) and c) are requested by April 1, 1972, and item d) by April 15, 1972.

B.2. The material so supplied will be collated by ACAP and transmitted to the discipline group by April 15, 1972 for action indicated in paragraphs A.4., A.5 and A.6.

B.3. Apart from the material described in B.1.d. and to some extent generated at the department level, each interested university will be requested to make an individual statement on its plans for the development of economics, in particular the items of future commitment implied by item B.1.d. (June 1, 1972).

C. Terms of Reference of Consultants

C.1. Consider the materials prepared by the discipline group and the universities and obtain other data they may require to carry out the tasks detailed below. They may obtain data and views from any relevant source, such as, for example, employers of holders of graduate degrees professional and learned societies, federal agencies. The campus of each interested university shall be visited by at least two consultants. Consultants shall arrange their schedule of visits to the universities in consultation with ACAP to ensure uniformity. Reports of appraisal consultants are privileged documents and are not to be made available to ACAP consultants. Consultants shall liaise with the discipline group near the beginning of the work, during the work as they consider necessary, and immediately before preparing their final report.

C.2. Report on the adequacy of the present state of graduate work in economics in the province in general and in each university where applicable, discussing the following:

a. coverage of divisions and specialties, and extent of activity in each.

b. faculty quality and quantity

c. nature of programmes offered

d. enrolment size and distribution amongst universities and divisions

e. quality of student body; admission requirements

f. relationship to related disciplines

g. physical facilities

h. other matters considered by the consultants to be significant.

C.3. Make recommendations for the development of graduate work in economics in Ontario between 1973 and 1983, but in more detail for 1973 through 1978, and, without limiting the generality of the foregoing, dealing with the following points:

a. Desirable programmes to be offered in the province, considering both possible limitations or reductions of existing programmes and creation of new programmes and new kinds of programmes including the appropriateness of part-time programmes. In particular, consider any new areas of economics in which graduate work should be developed and any application-oriented and interdisciplinary work in which economics should be involved.

b. Desirable provincial enrolments, year by year, in the various levels of graduate study, and specialties where appropriate. One should consider the need for highly trained manpower and also the general cultural and societal factors which may lead students to pursue graduate work in economics. In considering manpower needs, one should take account of the "market" available to graduates (at least all of Canada) and of other sources of supply for that market. Results of forecasts of high level manpower employment should be treated with due caution and only in a clearly balanced relationship with cultural and societal needs.

c. Distribution amongst the universities of responsibility for programmes and for specialties where appropriate, including consideration of the need for any increase or decrease in the number of departments offering doctoral work and including consideration of areas of collaboration and sharing of facilities at regional level and across the province.

d. Distribution of enrolment amongst the universities, showing desirable ranges of enrolment.

e. Desirable extent of involvement with related disciplines.

f. Consideration of various types of allocation systems for influencing the amount and distribution of graduate work in economics in Ontario.

In all cases, it is important that the rationale for the recommendations be clear; this is especially important for items c. and d. Consultants are asked to comment on advantages and disadvantages of various techniques for arranging that their recommendations become effective.

C.4. It is permissible for consultants to recommend appraisals of individual programmes. This would arise if consultants were to suspect that a programme would be found to be wholly or in part below minimum acceptable standards; an appraisal by the Appraisals Committee is the means of settling the question. It is recognized that this action would be infrequent. Perhaps more likely, in planning assessments in some disciplines, consultants may find an excess of programmes in the same area of study, all of which could pass an appraisal; they would then have to make their own judgement of relative quality (a task outside the terms of reference of the Appraisals Committee), and guided by this judgement and other factors, the ACAP consultants would have to recommend where enrolment should be curtailed or eliminated.

D. Appointment of Consultants

The consultants shall include one person of wide academic experience in Canada but in a different discipline. The other two consultants shall be economists of international standing with suitable administrative or consulting experience.

E. Report of Consultants

The consultants submit a joint report to ACAP (tentative date of January 1, 1973). Minority reports are, of course, possible. The reasoning leading to their recommendations should be given fully, in view of the subsequent treatment of the report. The report is submitted for comment to the discipline group and to each interested university. There may be informal or interim exchanges of views amongst the discipline group, the universities, and ACAP. By February 15, 1973, any university which wishes to make a formal statement on the consultants' report shall submit it to ACAP. Any such report shall be transmitted to the discipline group. By March 1, 1973, the discipline group shall submit its formal comments and/or recommendations to ACAP. ACAP considers the discipline group and university statements along with the consultants' report and transmits them to COU with recommendations of the position COU should adopt (tentative date: April 1, 1973). Copies of the material transmitted to COU will be supplied to OCGS, to the Council of Deans of Arts and Science, and to the members of the discipline group and to the interested universities. The consultants' report may be published together with the comments of the discipline group, those of any university so requesting, and with the position adopted by COU.

APPENDIX E

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DISCIPLINE GROUP MEMBERSHIP

APPENDIX E

DISCIPLINE GROUP MEMBERSHIP

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BROCK - Professor M. F. Perkins

CARLETON - Mr. K. A. J. Hay until September, 1973
Dr. W. I. Gillespie

GUELPH - Professor J. Vanderkamp

LAKEHEAD - Professor K. J. Charles

LAURENTIAN - Professor S. J. Gilani

McMASTER - Professor W. M. Scammell until May, 1972
Professor D. M. Winch

OTTAWA - Dr. J. Kuiper

QUEEN'S - *Professor D. C. Smith

TORONTO - Professor T. A. Wilson until September, 1972
Professor A. Breton

TRENT - No representative

WATERLOO - Dr. W. R. Needham until April, 1972
Professor R. A. Mundell

WATERLOO LUTHERAN - Professor J. Weir

WESTERN ONTARIO - Dr. J. C. Leith until November, 1972
Professor R. J. Wonnacott

WINDSOR - Professor Z. M. Fallenbuchl

YORK - Professor J. T. Montague

* chairman of discipline group

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APPENDIX F

ROLES OF ACAP AND OF DISCIPLINE GROUPS

Ontario Council on Graduate Studies

By-Law No. 3

A By-Law to establish a Committee on the Academic Planning of Graduate Studies.

1. The Ontario Council on Graduate Studies, recongnizing the importance of providing for the continued and orderly development of graduate studies in the Ontario universities, establishes a Standing Committee to be known as the Advisory Committee on Academic Planning (abbreviation - ACAP).

Interpretation

2. In this By-Law,

   (a) "Committee" without further specification, means the Advisory Committee on Academic Planning;

   (b) "Council" or OCGS means the Ontario Council on Graduate Studies;

   (c) "Committee of Presidents" or CPUO means the Committee of Presidents of Universities of Ontario;

   (d) "university" means a provincially assisted university in Ontario;

   (e) "discipline" means any branch or combination of branches of learning so designated;

   (f) "discipline group" means a body designated as such by the Committee of Presidents of the Universities of Ontario, and normally consisting, for any one discipline, of one representative from each of the interested universities;

   (g) "planning assessment" means a formal review of current and projected graduate programmes within a discipline or a group of disciplines;

   (h) "programme" signifies all aspects of a particular graduate undertaking;

   (i) "rationalization" means the arranging of graduate programmes in order to avoid undesirable duplication, eliminate waste, and enhance and sustain quality.

Membership

3. (a) The Committee shall consist of at least seven members of the professoriate in Ontario universities, some of whom shall be members of the Council.

(b) The members of the Committee shall serve for such periods of time as the Council may determine, and they shall be selected in such manner as may provide for reasonable balance both of academic disciplines and of universities.

(c) The members of the Committee shall be appointed as individuals.

Chairman

4. The Chairman of the Committee shall be named by the Council, and he shall have one vote.

Quorum

5. A majority of all members of the Committee shall constitute a quorum.

Functions

6. The functions of the committee shall be

(a) To advise OCGS on steps to be taken to implement effective provincial planning of graduate development;

(b) To promote the rationalization of graduate studies within the universities, in cooperation with the discipline groups;

(c) To recommend, through OCGS, to CPUO the carrying out of planning assessments of disciplines or groups of disciplines and to recommend suitable arrangements and procedures for each assessment;

(d) To supervise the conduct of each planning assessment approved by CPOU;

(e) To respond to requests by CPUO to have a discipline assessment conducted by proposing suitable arrangements;

(f) To submit to CPUO the reports of the assessments together with any recommendations which the committee wishes to make. A copy of the report shall be sent to Council.

Jurisdiction

7. In order that the Committee may discharge the functions described in Section 6 above, it shall be authorized

   (a) to request a university to provide such information pertaining to graduate studies as may enable the Committee to discharge its functions;

   (b) to request a discipline group to provide such information as may enable the Committee to discharge its functions;

   (c) to receive reports from the universities and from the discipline groups, and to comment and communicate with the universities and the discipline groups concerning such reports;

   (d) to convene a meeting of any discipline group for the purpose of discussing the development to date, and proposals for the future development of graduate studies in the discipline concerned;

   (e) to send one or more representatives to a meeting of a discipline group at the invitation of the discipline group;

   (f) to make such suggestions to a discipline group as may be deemed appropriate to the functions of the Committee;

   (g) to supervise the conduct of planning assessments, and to report thereon to the Committee of Presidents of Universities of Ontario;

   (h) generally to report and to make recommendations to the Council;

   (i) to seek and receive advice from appropriate experts;

   (j) to employ consultants in connection with planning assessments.

Procedures

8. The procedure to be followed by the Committee shall be as approved by the Committee of Presidents of the University of Ontario.

9. The Committee's function is solely advisory.

Effective Date

10. This By-Law shall take effect January 1971.

ACAP DISCIPLINE GROUPS AND THEIR ROLES

1. Establishment of a Group

a. When it is considered desirable to activate planning of graduate work in some discipline(s) or interdisciplinary area, COU, on the advice of OCGS, will authorize the establishment of an ACAP discipline group, if it was not already approved and included in the May, 1968 list. If it is already authorized, ACAP may decide to set it up as described in paragraph b.

b. The Executive Vice-Chairman of ACAP will then invite the executive head of each university (including Wilfrid Laurier University) either to nominate a member of the discipline group or to indicate that his university has no plans for graduate study in this discipline in the next five years or so. If a university can state no plans for future graduate work in the subject, but feels that a watching brief is desirable, it may appoint an observer to the group.

c. Changes of a university's representative are to be notified by the executive head.

d. The group shall select its own chairman.

2. Meetings

a. A discipline group may meet at the call of its chairman or in accord with its own arrangements.

b. A discipline group may be called to meet by the Executive Vice-Chairman acting for ACAP.

3. Responsibilities

a. The group is to keep under review the plans for graduate work in its discipline in Ontario, including new developments and trends in the discipline, and to make reports to ACAP on a regular basis.

b. The group may make recommendations to ACAP in connection with graduate work in its discipline when it considers it appropriate.

c. ACAP will assist the group in obtaining information and data, as mutually agreed.

d. When COU has instructed ACAP to conduct a planning assessment, the discipline group will assist and advise ACAP in determining procedures and terms of reference, will report as requested and will generally facilitate the assessment.

Approved by OCGS March 22, 1973
and by COU April 6, 1973.

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APPENDIX G

ESTIMATES OF ACADEMIC EMPLOYMENT

ESTIMATES OF ACADEMIC EMPLOYMENT

No. of present F.T. staff in Economics (including cross appointments but excluding visiting professors) for all Ontario universities (13 exclduing Trent) = 305.

No. of these with PhD's = 244 i.e. 80%

Attrition rate due to deaths and retirements = 1.2% (approx.)

For net resignations we shall assume 2.0%

a) Assuming no net expansion in Economics and no change in the student/staff ratio

Applying 3.2% to the F.T. staff, we arrive at a need for about 10 new staff members per year and assuming that about 90% of these will hold PhD's (present % = .80), then approximately 9 new PhD's per year in Economics are required.

Assuming average enrolment growth rates of 5% p.a. and 10% p.a. in Economics, and no change in the student/staff ratio, the demand for new staff (excluding replacements) is as follows:

	Growth rate		Net increase due to growth	
	5%	10%	5%	10%
1971-72	305	305	-	-
1972-73	320	336	15	31
1973-74	336	370	16	34
1974-75	353	407	17	37
1975-76	371	448	18	41

The demand for replacement and total staff is as follows (3.2% attrition)

	Replacement Staff		Total New Staff	
	5%	10%	5%	10%
1971-72	10	10	-	-
1972-73	10	11	25	42
1973-74	11	12	27	46
1974-75	11	13	28	50
1975-76	12	14	30	55

Therefore the average new staff required over the four year period is

28 p.a. @ 5% growth rate or
48 p.a. @ 10% growth rate

Assuming that 85% of new staff will possess a PhD the new staff with PhD's required is 24 p.a. @ 5% growth rate
or 41 p.a. @ 10% growth rate

For all Canada (@5% growth rate) number of PhD's required in Economics

$= \frac{100 \times 24}{32} = 75$ p.a. assuming that 32% of the Economics faculty are to be found in Ontario.

If our estimate and the 10% growth rate is extrapolated to Canada the PhD staff required if $\frac{100 \times 41 \times .85}{32} = 109$ p.a.

So the results are most sensitive to the growth rate assumed and the base year used.

Our best estimate of the demand for PhD's in Economics in Ontario universities are for Ontario 24 p.a. and for Canada 75 p.a.

To illustrate the sensitivity of the demand to the student/staff ratio, we compute the effect of a uniform change in the overall student/staff ratio from 15:1 at the beginning of the projection period to 16:1 at the end of the period. Averaging over the period, the existing staff could absorb 6.7% of the 21.5% increase over the 4 year period (@ a 5% growth rate). This means the net increase in staff due to growth would be $\frac{14.8 \text{ of } 16.5}{21.5}$ or about 11.4 staff members p.a. instead of 16.5.

The replacement staff would not be significantly affected (it would decrease very slightly) so that the estimated number of new staff required at a 5% growth rate and a uniform increase in student/staff ratio from 15:1 to 16:1 would be about 23 instead of 28.

This gives a PhD demand (@ 85%) of about 20 p.a. instead of 24 p.a. Because we have used averages, the estimate would result in a surplus in the early years and a deficiency in the later years.

Conversely a uniform decrease in the student/staff ratio to 14:1 (which may not be likely) can be shown to increase the PhD average estimated demand to

$$\left[11 + \frac{(21.5 + 6.7) \times 16.5}{21.5}\right] \times .85 = 28 \text{ p.a. instead of } 24 \text{ p.a.}$$

If the student/staff ratio increases from 15:1 to 16:1 under conditions of no growth, the total demand for staff will decrease to about 93.8% of its former value, i.e. to 93.8 x 305 = 286 p.a. approximately while replacements will remain at about 10 p.a.

Therefore there will be a net demand for staff of about $\frac{-9}{4}$ p.a. corresponding to a PhD demand of -2. p.a.

Similarly a decrease in the student/staff ratio from 15:1 to 14:1 under conditions of no growth would lead to a net demand for PhD's of 14 p.a.

To summarize the estimated average demand for PhD's in Economics in Ontario universities (1972-73 to 1975-76) is as follows:

	No student/staff change	Increase in student/staff from 15:1 to 16:1	Decrease in student/staff from 15:1 to 14:1
No net growth	9	-2	14
5% growth p.a.	24	20	28

ECONOMICS DISCIPLINE ASSESSMENT

FTE FACULTY

Carleton	29.2
Guelph	14
Lakehead	10.3
McMaster	23
Ottawa	19.5
Queen's	30
Toronto	58.3
Waterloo	18.5
Western	36.5
Windsor	19
York	23.3

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APPENDIX H

CURRICULA VITARUM OF THE CONSULTANTS

RICHARD E. CAVES

Born Akron, Ohio, November 1, 1931

A.B., Oberlin College, 1953
M.A., Harvard University, 1956
Ph.D., Harvard University, 1958

University of California, Assistant Professor and Associate Professor, 1957-62
Harvard University, Professor, 1962-
Chairman, Department of Economics, 1966-
Consultant, Council of Economic Advisors to President of the U.S.A., 1961

Publications: Trade and Economic Structure
Air Transport and its Regulators
Canadian Economy: Prospect and Retrospect (co-author)

Address: Department of Economics,
Harvard University,
Cambridge, Massachusetts

HON. HENRY D. HICKS

Born Bridgetown Nova Scotia, March 5, 1915

B.A., Mount Allison, 1936
B.Sc., Dalhousie, 1937
B.A., Oxford, 1939
B.C.L., Oxford, 1940
M.A., Oxford, 1944
D.Ed., St. Anne's College, 1952
D.C.L., King's College, 1954

Nova Scotia Legislature member, 1945-60
Minister of Education, 1949-54
Provincial Secretary, 1954
Premier of Nova Scotia, 1954-56
Leader of Opposition, 1956-60
Dean of Arts and Science, Dalhousie University, 1960-61
Vice President, Dalhousie University, 1961-63
President Dalhousie University, 1963-

Companion of The Order of Canada, 1970
Queen's Counsel

Member, The Canada Council, 1963-69
Member, Senate of Canada, 1972-

Address: Dalhousie University
Halifax, Nova Scotia

HARRY G. JOHNSON

Born Toronto, Ontario, May 26, 1923

B.A., Toronto, 1943
M.A., Toronto, 1947; Harvard, 1949; Cantab, 1951; Manchester, 1960
Ph.D., Harvard University, 1958
L.L.D., St. Francse Xavier, Windsor, Queen's, Carleton, Ottawa, Western Ontario

Cambridge University, Assistant Lecturer and Lecturer and Fellow of King's College, 1949-56
Manchester University, Professor, 1956-59
University of Chicago, Professor 1959-
London School of Economics and Political Science, Professor 1966-
Wicksell Lecturer, 1968

Assistant editor of "Review of Economic Studies", 1950-59
Editor of "Manchester School", 1956-59
Editor of "Journal of Political Economy", 1960-66
President, Canadian Political Science Association, 1965-66

Publications:
The Canadian Quandary, 1963
Canada in a Changing World Economy, 1962
International Trade and Economic Growth, 1958
Money, Trade and Economic Growth, 1962
Lags in the Effects of Monetary Policy in Canada, 1964
The World Economy at the Crossroads, 1965
Economic Policies Toward Less Developed Countries, 1967
Essays in Monetary Economics, 1967

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